

# MANUFACTURERS' RECORD

A  
WEEKLY SOUTHERN INDUSTRIAL  
RAILROAD AND FINANCIAL NEWSPAPER.

## CONTENTS.

### EDITORIAL.

What Is Said of Our Work	5
The South Solving Its Own Problems	5
A Broad and Comprehensive Plan Suggested	5
Cost of Iron Making in Pennsylvania and the South	5
Cheap Southern Labor	6
South-Hating Newspapers	6
A Prophecy Nearing Fulfilment	6
Editorial Short Notes	5, 6, 43
Free Trade Humbuggery	38

### CONSTRUCTION DEPARTMENT.

Full particulars regarding all industrial enterprises organized in the South during the past week	40-42
Building Notes	42
Burned	43
Machinery Wanted	44

### INDUSTRIAL NOTES.

Trade Notes	47, 52, 70
Illustrated Descriptions of Machinery	69
Iron Market Report	70
Eastern Lumber Markets	74

### CORRESPONDENCE AND NOTES.

The South's Advantage in Iron Making	7
Greensboro, N. C., as a Steel Making Point	8
Needs of the Mississippi River; by Capt. S. S. Leach, U. S. A.	8, 9
New Enterprises at Dallas	9
A Suggestion on Mississippi River Improvement from Edward H. Amidown	10
The Brazos Harbor	10
General Notes	10
A Coming City—Suffolk, Va.	11
Glasgow, Va.	11
Tredegar's Iron Wealth	38
Southern Railroad Stocks	38
The MANUFACTURERS' RECORD's Work Indorsed	43
Morristown, East Tennessee	44

### FINANCIAL DEPARTMENT.

New Banks	38
Bonds, Stocks and Other Notes	38
Southern Stock Quotations	39

### RAILROAD DEPARTMENT.

The Carolina, Knoxville & Western	37
Various Railroad Notes	37
Railroad Construction	37

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# Classified Index of Advertisers.

(For ALPHABETICAL INDEX WITH PAGES, SEE PAGE 73.)

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Locke Bros.  
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Mfg. Co.
- Miller & Kettig.**  
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(Continued on Page 73.)



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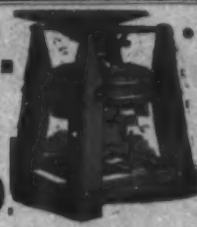
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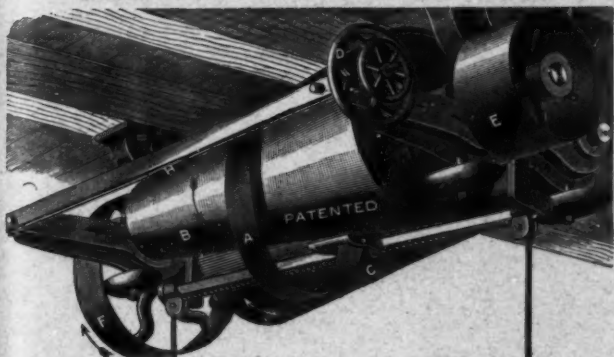
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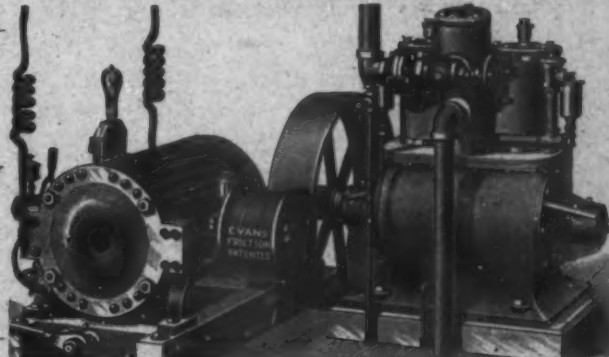
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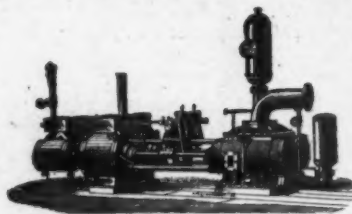
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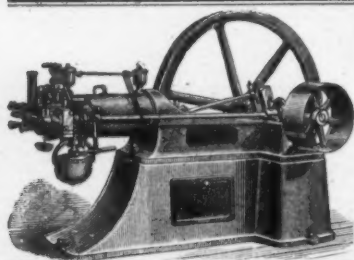
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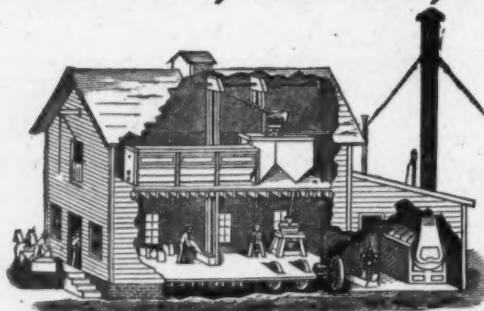
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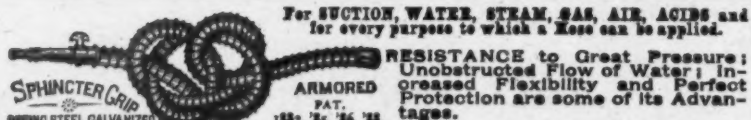
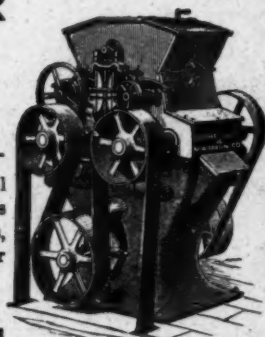
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# MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVIII. No. 2.  
WEEKLY.

BALTIMORE, AUGUST 16, 1890.

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## Manufacturers' Record.

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BALTIMORE, AUGUST 16, 1890.

### What Is Said of Our Work.

The MANUFACTURERS' RECORD heartily appreciates the good words its work has called forth. We are especially gratified by the expressions of approval from the South, which have come to us by the hundreds and from the highest sources. Any newspaper may well be proud of such an estimate of its value and efficiency in its own field as is shown in the following letter from Mr. E. Watkins, president of the Chattanooga & Lookout Mountain Railway Co.:

I beg to say that, as a subscriber to your journal for more than three years, I have watched your course, so far as Southern investments were concerned, and that I am satisfied that you have contributed more than all other papers and parties to the present situation of affairs in the South. I think the South owes you a debt of gratitude which no time can ever pay. You certainly have marked with a prophetic eye the progress of this country. You defended the industries of the mineral districts, and supported the character of the people at a time when it seemed to hazard your interest to do so. You were laughed at for your position, but with a persistent eye of honesty you continued the fight, which I am free to say, in my opinion, has resulted in more good to the industrial section of the South than everything else that has been done and said by everybody else. Your persistent efforts have from time to time induced leading parties from various sections of the country to visit the South, and the result of their visit has been the conviction on their part that everything you said was true, and really that the half was never said by you. I think you deserve all the more credit for making the fight at a time when it really hazarded your interest to do so. If we could ever be able to serve you as you have served us, I believe the people of this section with one accord would heartily and willingly engage in the work.

### The South Solving Its Own Problems.

In concluding the admirable and most timely paper upon "The Economic Future of the South," written by Professor N. S. Shaler, Harvard's distinguished geologist, (from which lengthy quotations were made in our last week's issue), the learned professor said:

The great revolution of our civil war, by destroying slavery, opened a new realm to the enterprise of our people. Most fortunately, the earth resources of this realm provided the basis of an economic development which promises to solve the difficulties which could not be cleared away by arms or by legislation. This development bids fair to complete the modernizing process and to give a new life not only to the South and to our nation as a whole, but to have a vast influence on the industrial developments of other lands.

The sentence of the foregoing paragraph which we have italicized embodies a profound truth. Economic development of the earth resources of the South not only "promises to," but will surely "solve the difficulties that could not be cleared away by arms or legislation."

With the withdrawal of the troops from the South an incubus was removed from the minds of Southern men, who immediately gave themselves, with an earnestness born of hope, to the rehabilitation of their section. Notwithstanding the excitement of frequent political campaigns they found time for business, to which they earnestly and effectively applied themselves.

All this fitted them to avail themselves of the "earth resources of their realm," and they entered upon the work of Southern development with enthusiasm and a determination to win success. The world knows what they have accomplished since then.

In the South the "earth resources of the realm" have brought into harmonious co-operation the people of the two sections, and from this blending of South and North is growing up "a new life, not only to the South and to our nation as a whole," but one which will "have a vast influence on the developments of other lands."

Arms could not solve the race

question, and legislation thus far has signally failed to accomplish anything, though often tried, and it never can be successful. All the Lodge bills that may be formulated will have no other effect than to keep "the difficulty" in existence. But, fortunately, what arms and legislation cannot effect "the earth resources of the realm" will do. Let those who doubt read the history of the past and then study the popular movements now agitating the South. If the South is left to itself, if no inimical legislation interferes with the existing status, economic "development" will solve all difficulties, and even the troublesome race question will be consigned to oblivion.

### A Broad and Comprehensive Plan Suggested.

The MANUFACTURERS' RECORD this week has two notable contributions to Mississippi river improvement literature. The scientific phases of the question are discussed by Captain Smith S. Leach, admittedly one of the ablest engineers in the army, and whose twelve years' experience in improvement operations have made him one of the leading authorities on river phenomena. The other contribution is from an entirely different standpoint, being a letter from Edward H. Ammidown, president of the American Protective Tariff League. This contains very pertinent and practical suggestions as to how the national government should proceed. Mr. Ammidown favors a broad and comprehensive plan of improving this great inland sea, "looking forward to the time when the valley of the Mississippi and its tributaries will be the home of hundreds of millions of human beings."

THE Sheffield (Ala.) Daily Enterprise of the 3d inst. appeared as a handsomely printed and illustrated eight-page paper, in which the many enterprises of that growing and prosperous city were elaborately written up. The Enterprise is constantly demonstrating that it has a right to its name.

### Cost of Iron-Making in Pennsylvania and the South.

The furnaces located in Eastern Pennsylvania are the ones that have felt Southern competition most seriously. It is their market especially that the South has invaded, though the time may come when Southern iron will be as important a factor even in Pittsburgh as it is to-day in Philadelphia, New York and other seaboard points. Hence a comparison of the cost of iron-making in the South and in Eastern Pennsylvania will be of interest as giving the relative advantages of the two points where the rivalry is now most felt. As shown elsewhere in this issue, the report of Labor Commissioner Wright gives the cost of iron-making at eight Eastern Pennsylvania furnaces as ranging from \$13.62 a ton to \$16.35 a ton, the average cost being \$15.11 a ton. The average cost for eighteen Southern furnaces, which included some small plants not running under favorable conditions, was \$10.79, or \$4.31 less than the average cost of these Eastern Pennsylvania furnaces. Two of these Pennsylvania furnaces produced their iron at a cost of \$16.35 and \$16.95 a ton respectively, one at \$15.39 and one at \$15.50, while a number of Southern furnaces made this iron at from \$8.55 to \$10 a ton. In these cases the difference is so striking as to show the impossibility of any but the very best located of Eastern Pennsylvania furnaces continuing to make iron in competition with Southern furnaces. The full figures on this subject given to-day must convince even the most skeptical that the day of the South's supremacy in iron making is not far distant.

MORRISTOWN, TENN., is experiencing a most satisfactory growth. The Merchants' National Bank, with a paid up capital of \$60,000, was organized there a few days ago. The railroad to Cumberland Gap is being built rapidly, 1,500 men being at work along the line. Some of the points of Morristown's advancement and some of its resources and advantages are set forth in a letter from Col. O. C. King, published in another column.



### Cheap Southern Labor.

The hours of field labor in the South have always been "from sun to sun." White farmers who do their own work and the freedmen also adhere to the ancient usage. The same rule holds good in other out-of-door employments, such as railroad construction and lumbering. It is these extra hours as well as the low rate of wages that make the cost of all work done by unskilled hands much less in the South than in any other section of the country. Nor is it probable that there will be any material change in these respects for a long period. The usages established in the course of many generations are not readily changed; they become second nature, and retain their hold upon people long after the conditions under which they originated have ceased to exist.

Shrewd investors in Southern town properties and industrial enterprises have taken account of these favorable conditions. They have found that they could lay out roads, fell forests, run saw and planing mills, make brick, erect buildings, at prices far lower than they could do precisely the same things at the North, and when all these works were completed they could obtain cheaper labor for employment in their industries than could those in the same lines of business at the North. At the same time they have seen the value of their real estate increase at a rate unknown in any of the older States, and paralleled only by the rapid growth of the population and consequent enhancement of values in the newly-settled West.

Because long hours of labor and moderate wages will continue to be the rule for many years to come, the South, with its manifold natural advantages and its immense areas of virgin territory, will continue to be the best section of the United States for American investors and men of enterprise.

### South-Hating Newspapers.

There are certain newspapers in the North which delight in misrepresenting and slandering the South. One of these publications is Frank Leslie's Illustrated Newspaper, which in its last issue advocated the passage of the Force bill in an editorial, of which we reproduce the last two paragraphs:

It has for years been undenied that the full vote is not brought out at the Congressional elections in the South. For years the Republican party has been taunted for not settling, or trying to settle, this partly political and partly race problem when it had control of the Executive and both branches of the Federal Legislature. Now that the party is again in complete control, it would be an exhibition of cowardice or incapacity if it did not at least attempt a solution.

To have been in full control of the government twice, and twice to have failed to meet the emergency, would leave the party's record blotted and blurred where it should be clear and clean. It would be the strongest indictment against it that the

grand jury of the public possibly could frame. A party that fears bravely to face a political problem deserves defeat. If the elections bill fails, that failure must inevitably involve the most deplorable consequences to the people as well as to the party. The shame, the ignominy, the lasting stigma of that failure will rest upon any Senator who sacrifices convictions to cowardice and justice to jeers.

We are opposed to the boycott, but when a newspaper is hostile to the interests of a section, as Leslie's Illustrated Newspaper shows itself to be in urging that Congress fasten the iniquitous and obnoxious Force bill on the South, it ought not to have the effrontery to ask that section to contribute money to print and circulate its slanders. And yet Leslie's Newspaper is doing that very thing. The editorial policy of the paper is strongly anti-Southern, while its business agents are busily engaged in selling, or trying to sell, its advertising space to Southern people.

In republishing from the MANUFACTURERS' RECORD some statistics of the South's progress, the Philadelphia Commercial List says:

Banks are the servants of money—they are created by it, and live, prosper or die by its power. The business of a community demands monetary circulation as imperatively as the physical body requires blood, and to the banks we have to look for the supply of this business necessity—circulation, i. e., money. Indeed, the banks are the channels through which this business circulation must flow—the sources from which it must come—else there comes stagnation, prostration, poverty, despair and ruin. To measure material progress we must take the measure of the banks—the one gauges the other as accurately as the barometer foretells the atmospheric state. Applying to the South this test of banking increase, it is found to be remarkable in showing the growth of national banks, greater relatively than that of any other section for the decade stated, 1879-1889. With an assessed valuation in the whole country in 1860 of \$12,000,000,000, the South had \$5,200,000,000, which was 44 per cent. of the total; in 1870 this valuation of the United States had become \$14,170,000,000, of which the South possessed \$3,064,000,000, or only 22 per cent.—in other words, while the whole nation had progressed 20 per cent., the South had retrograded 40 per cent. This was the result of the civil war, which, whether a national necessity or sectional insanity, was an awful calamity. In 1889 the Southern assessment was \$4,220,000,000, and with the actual value on the basis of 41 per cent. of the assessment, as estimated under the census calculation, the fair value of the South was \$10,000,000,000. Taking the assessments of 1860 and 1889 at their face and allowing for the slave property freed at \$1,000,000,000, the South stands on a basis of property value equal to her position in 1860, which means that the loss by war and its attendant injuries has been regained. Further than this the shackles of enslavement that bound the South under slavery have been burst asunder, and that great region is free to utilize all the advantages it so richly possesses, both natural and otherwise. She is doing this in large measure to-day, as the results prove. To do this banks have been found necessary, and this necessity for banks has increased these institutions under national charters in number from 1879 to 1889, 140 per cent., viz., from 220 to 523. The capital stock in these 220 national banks in 1879 was \$45,597,730, while

in 1889 the 523 banks had capital of \$83,319,510, a gain of fully 80 per cent. The deposits, discounts, surplus and undivided profits showed an increase of over 100 per cent. for this period, which shows a commendable and conspicuous degree of substantial growth in these material respects. On the basis of percentage increase these banks of the South have exceeded those of the other sections of the Union.

### A Prophecy Nearing Fulfilment.

A timely service was rendered the public last week by the Marine Journal of New York, which published with explanations the gist of the discussion in the United States Senate in 1858, when all subsidy aid to steam lines was forbidden. At that time there were four postal lines running from New York to foreign ports that were receiving annually \$1,498,000. This compensation enabled them to compete successfully with British lines in passenger and freight carrying, and at the same time to retain in this country all the money that would otherwise have gone to swell the trade and the profits of foreign corporations. There was a probability—so our British cousins feared, and so patriotic Americans hoped—that if these four lines were continued they would be followed by others, until American steamships would destroy the prestige of English steamers on the high seas just as our sailing ships had captured very much of the business once done by theirs. In reply to those who advocated the abolition of these subsidies, and who claimed, as some Congressmen do now, that the American merchant marine should be sustained "by its own exertions," or that otherwise, "if we cannot compete, then we must leave it to Great Britain," Senator Collamer, of Vermont, said:

The undisguised truth is that Great Britain has established 91 mail lines in different directions, checkering all the present commercial world. She is thus subsidizing the commerce of the world. She does it in the form and guise of promoting steam mail service, but really with the view to command the commerce of the world. Gentlemen speak of running a line of steamships on any track of commerce between two important points across the Atlantic by individual enterprise. While there are lines sustained between the same points, contributed to by the British government, no individuals could possibly endure such a rivalry. Some attempts have been made by Mr. Vanderbilt and others, but those lines are very soon abandoned. The idea of sustaining them is altogether futile. The British government, you may say, have already a monopoly of the carriage of light and valuable goods, now carried mainly by steam. The Bremen line, set up under the act of 1845 by the P. O. Department, has been a very improving one. Its postages have very much increased. The amount of commerce from Bremen to this country has, since the establishment of the line, run up from \$3,000,000 to \$16,000,000 a year. Now we are simply to say that we must give up all the valuable carrying trade of the world into the hands of Great Britain, as a monopoly, unless this government will contribute something toward the assistance of the steam navigation of the ocean. I do not say the policy should go on, or should not go on, but I wish it to

be distinctly understood \* \* \* that one of two things must happen: Great Britain must monopolize all the valuable commerce of the world, or we must go on with this system, for individual enterprise cannot by any possibility compete with her.

Senator Seward, of New York, made a powerful constitutional argument in favor of continuing the policy, illustrating at the same time its expediency. In the course of it he said:

I suppose the Constitution of the United States was made for the very purpose of furnishing to the Federal Congress the power to regulate commerce, not only between the States, but with foreign nations. If, in the progress of society, the maintenance of steamships by the patronage of the government is a wise and expedient regulation of our foreign commerce, the government of the United States has that power. As to the expediency of the government of the United States maintaining a navigation in reference to the interests of peace as well as war, I apprehend there can be no doubt. The power of Great Britain and her success and prosperity date from the time when the British Islands obtained the conduct of their own grain from foreign countries in vessels of their own construction, manned by their own men. And the power and greatness of Great Britain have been just in proportion as she excluded from her commerce the navigation of all other States, and monopolized it to herself. We were provincially in the colonial state dependent upon her, and were without any foreign commerce until we established a navigating interest of our own, on the same principles with that of Great Britain, as soon as we became independent.

He closed his speech with a prophecy which now nears its fulfilment, saying:

I wish to leave on record now that I do with the utmost confidence express my opinion that the government of the United States will at no very distant day retrace its steps by which it has begun to abandon the care of ocean navigation.

When the shipping bills now pending in the lower house of Congress shall become public law, this country will speedily resume a foremost place among the maritime nations of the globe, and in following the example of the founders of our nation by establishing a navigating interest of our own, we shall, by means of the abundance of ship-building materials of every kind, especially in the South, our ingenious mechanics and artisans, our accumulated wealth and our acknowledged enterprise as a people, soon be enabled to outstrip all competitors and to cover the seas with ships built in American yards, manned by American seamen, and carrying our surplus products to all the ports of the world.

SUPERINTENDENT PORTER has issued, in circular form, a statement of the debts of the several States as ascertained by the census of this year. The total decrease of the debts of the States since 1880 is \$58,020,931, of which \$27,593,587, or nearly one-half, was in the Southern States. The decrease in the Eastern States is \$11,187,117, in the Middle \$11,387,482 and in the Western \$7,852,744. Another table gives the excess of assets over their debts in the several States, and three of these States—Kentucky, Texas and West Virginia—credited with an excess.



## THE SOUTH'S ADVANTAGE.

Comparative Cost of Iron Making  
North and South.

[Written for the MANUFACTURERS' RECORD.]

Hon. Carroll D. Wright's figures of the cost of producing pig iron have opened the eyes of many an iron manufacturer wider than they have been opened before in many years, as the facts that the commissioner of labor has compiled throw a clear and direct light upon many points that have been long in dispute. Thanks to Mr. Wright's figures, which were taken direct from the books of the manufacturers, these disputed points are authoritatively settled. There have been many manufacturers in Pennsylvania and elsewhere in the North who have stoutly maintained the absurdity of the claims of Southern iron makers to such low figures of cost as \$8 or \$9 per ton, and there have even been intelligent men who have regarded \$10 as an extreme estimate of the minimum cost of pig iron at Southern furnaces. Estimates and arguments of every character have been advanced in support of the claims of the Southern iron industry, but by a vast number of well-informed men they have been received with a very large measure of incredulity. Singularly enough, even the steady sale of Southern-made pig iron in Pennsylvania at \$1 per ton below the price of Northern irons of equal grade has not been to all men a convincing argument of the advantages possessed by Southern furnaces. Of late Alabama No. 1 foundry pig has been selling regularly in Philadelphia for \$17 per ton delivered in Philadelphia. The present freight rate from Birmingham, Ala., to Philadelphia by rail and water route is \$4.25 per ton, so that \$17 per ton delivered in Philadelphia means \$12.75 per ton in Birmingham. Compare this with \$18 to \$18.50, the ruling price for local brands of No. 1 foundry in Philadelphia. Meanwhile Alabama gray forge iron sells in Philadelphia for \$14.50 to \$15 per ton, which represents \$10.25 to \$10.75 in Birmingham, while Pennsylvania iron makers are crying ruin at \$15.50 to \$15.75 for their iron of similar grade. Despite such startling figures as these, the competition of Southern furnaces has been esteemed very lightly by a great many Northern iron manufacturers, who have comforted themselves with the belief that the sales of Southern iron in Pennsylvania existed mainly on paper and not in reality. Nevertheless the product of Southern furnaces is steadily flowing Northward. The writer has knowledge of one recent order for 10,000 tons of Alabama coke iron that is now in course of delivery in Pennsylvania, and also of a single furnace company in Birmingham whose books contain orders for Pennsylvania delivery aggregating upwards of 60,000 tons. Perhaps this is all moonshine, but to the Northern manufacturers whose sales are diminished to just that extent it feels more like a stone wall when they run against it.

The stereotyped formula, which is always used to indicate the basis of the strength and prosperity of the Southern iron industry, comes in here just as appropriately as it has upon hundreds of occasions—"cheap raw materials and close proximity of the sources of supply to the furnace plant." The saving in the cost of assembling raw materials is an insurmountable advantage, inasmuch as the freight charges upon the four or five tons of raw materials that are required for every ton of pig iron produced constitute in unfavored localities one-half or even more of the total cost of the pig iron. The cost of ore, coke and limestone used by Southern furnaces often is as great as in Pennsylvania or other competing States, but the proximity of these supplies to the furnaces gives to the Southern manufacturer the advantage of small cost of transportation on his raw materials, which

frequently represents a saving of \$4 or \$5 on each ton of pig iron made. While the Northern iron manufacturer pays for long transportation on four or five tons of raw materials and sends one ton of pig iron to a near market for a comparatively small cost, the Southern manufacturer saves the heavy charges upon the four or five tons of materials, and is therefore well able to pay for the delivery of his pig iron in a market hundreds of miles distant and still have a considerable advantage over his Northern competitor. This is the one point of advantage above all others which gives the Southern iron industry its powerful position in competition with other sections of the country. With raw materials at low cost and near at hand, the Southern furnaces can easily stand the handicap of many hundreds of miles of transportation upon their product.

There has been no more lucid or emphatic substantiation of these claims of the iron industry of the South than has been recently presented in Carroll D. Wright's preliminary report upon the cost of producing pig iron, etc., which has just been presented to Congress. By the aid of Mr. Wright's careful and elaborate tables each element of cost in a ton of pig iron can be readily traced from start to finish. In one of the tables the distance and cost of transportation of each raw material is carefully figured out, and, with the aid of the table of proportions of materials charged into the furnaces, the exact extent to which transportation figures as an element of cost in a ton of pig iron can be nicely calculated. Selecting from Mr. Wright's list of Southern coke furnaces those for which complete figures are given, the total cost of the product per ton, the freight paid upon the raw materials used and the proportion of that freight to the total cost of the product will appear as follows:

No.	Total cost of iron.	Freight on materials.	Percentage of freight.
88.....	\$ 9.63	\$0.39	3.07
90.....	11.74	3.70	31.55
91.....	11.31	1.72	15.16
94.....	8.52	0.84	9.84
95.....	9.83	1.06	10.68
96.....	12.81	2.81	21.93
98.....	9.16	\$1.25	13.66
99.....	10.61	1.13	10.64
100.....	10.82	1.03	9.43
102.....	9.83	1.89	19.23
104.....	10.16	2.49	24.51
105.....	12.07	1.95	16.19
106.....	10.03	1.11	11.08
108.....	9.62	1.46	15.19
109.....	12.91	1.75	13.56
110.....	10.48	1.85	17.63
111.....	11.39	\$2.27	19.50
112.....	11.82	2.93	24.79

\*Coke ovens at works; coal brought one mile, but cost not given.

\*Coke ovens at works; transportation estimated at two tons of coal per ton of coke used.

Average cost of iron per ton, \$10.70.  
Average freight on materials per ton of iron made, \$1.75, equal to 16.37 per cent. of total cost.

The wide range of freight charges, from 3.07 per cent. to 31.55 per cent. of the total cost of the iron produced, calls for a closer examination of a few of the more conspicuous cases. The establishment designated as No. 88, which shows the lowest transportation costs in the list, represents the best of conditions in the South for making iron at small cost. The ore used by this furnace was mined three miles from the works; the limestone was brought from quarries 25 miles distant, and the coke ovens were only three miles from the furnace. The coal that was used with the furnace gas to heat the boilers was brought from mines only three miles distant. The coke, coal and ore were hauled the three miles by rail for three cents per ton, while the limestone paid 28 cents per ton for the 25-mile haul. The total freight charges of 29 cents paid on the materials used in one ton of pig iron is distributed as follows:

Ore, 2.14 tons @ 4 cents.....	\$0.86
Limestone, 450 ton @ 28 cents.....	1.26
Coke, 1.82 ton @ 4 cents.....	.073

Total freight.....\$0.296

Take another low freight furnace, No. 92, which paid 84 cents per ton of iron made, or 9.84 per cent. of the total cost. In this case the ore was carried 20 miles by rail at 25 cents per ton, and the limestone was hauled 30 miles by rail at a cost

of 35 cents per ton. The coke was made at the works from coal mined one mile distant, the cost of transporting which is not given. The total of 84 cents freight upon raw materials for one ton of iron is made up as follows:

Ore, 1.964 tons @ 25 cents.....	\$0.491
Limestone, 1.044 tons @ 30 cents.....	.351
Coke.....	.....

Total freight.....\$0.842

No. 90 represents conditions that are not often found in the South, the proportion of the cost of assembling the raw materials being excessive in comparison with the other plants for which figures are given. In this instance the ore was carried 35 miles by rail, for which a charge of 35 cents per ton was paid. The limestone paid 25 cents per ton for a rail haul of 10 miles, while the coke stood a transportation of 1,200 miles by rail at \$2.15 per ton. This is an extraordinary distance for the transportation of coke to a Southern furnace, but even with this heavy charge, the aggregate of freight charges per ton of product is much below the totals for competing furnaces in the North, as will appear further along. The total of \$3.70 paid for assembling the raw materials from which No. 90 made a ton of iron was divided as follows:

Ore, 2.300 tons @ 35 cents.....	\$0.805
Limestone, 788 ton @ 25 cents.....	.197
Coke, 1.237 tons @ \$2.15.....	2.702

Total freight.....\$3.704

Probably No. 94 gives as good an example as can be found of conditions that can be duplicated in any good iron region of the South; that is, fairly average and representative conditions. This furnace brought its ore 15 miles by rail, paying 25 cents per ton freight. Limestone was brought 2 miles at a cost of 10 cents per ton, and coke was hauled 35 miles at 35 cents per ton. The total of \$1.08 per ton freight is divided as follows:

Ore, 2.167 tons @ 25 cents.....	\$0.542
Limestone, .764 ton @ 10 cents.....	0.076
Coke, 1.331 ton @ 35 cents.....	0.466

Total freight.....\$1.084

In this case a very small amount of cinder, scrap, etc., was used, but as its transportation is not mentioned it was probably close at hand.

With these details of the Southern conditions in mind, we may pass to the consideration of the conditions that exist in the sections with which the Southern furnaces come in direct competition. Let us first compare with the coke furnaces of the South some of the Northern furnaces using the same fuel. In the table below are given the freight charges on raw materials for those all-coke furnaces for which the figures in Mr. Wright's report are full and complete. The only ones omitted are those for which figures are lacking:

No.	Total cost of iron.	Freight on materials.	Percentage of freight.
65.....	\$13.24	\$3.91	29.53
67.....	14.84	5.26	35.44
68.....	13.69	4.39	31.97
69.....	13.17	2.89	21.97
72.....	13.86	4.03	29.05
73.....	12.42	5.49	44.20
74.....	14.08	*1.61	11.61
83.....	12.99	5.85	44.98
84.....	14.75	5.87	39.77
85.....	13.91	2.48	19.05
86.....	14.86	5.83	39.18

\*Coke ovens at works.

Average cost of iron per ton, \$13.79.  
Average freight on materials per ton of iron made, \$4.24, equal to 30.75 per cent. of total cost.

No. 78 presents itself at once as the one furnace among the eleven which enjoys advantages of cheap transportation comparable with those that are nearly everywhere found in the South. Although this furnace is merely designated as in the "Northern district United States" by Mr. Wright, there is good reason for the conjecture that it is in Westmoreland county, Pa., where it enjoys the great advantage of being in the heart of the Connellsville coke region, and is thus able to prepare its own fuel at a minimum of cost. The ores used were chiefly local hematite and carbonate, mined within 7 miles of the furnace and hauled by rail at a cost of 50 cents per ton, which strikes out as a pretty steep fig-

ure, unless it be for a private road. A portion of richer Lake Superior ore is evidently also used, although the transportation is not accounted for. The limestone has to be brought 145 miles, for which the freight charge is figured at 85 cents per ton. The total freight charges on raw materials, amounting to \$1.63 per ton of iron made, may be analyzed as follows:

Ore, 1.965 tons @ 30 cents.....	\$0.589
Limestone, 1.004 tons @ 85 cents.....	.850
Coke, 1.834 tons.....	.....

Total freight.....\$1.634

No. 68 appears to be a more representative Northern coke furnace, both as regards the cost of its product and the freight charges paid on its raw materials. The indications point strongly to the Shenango valley of Pennsylvania as the location of this furnace. The ore used is Lake Superior magnetic, to transport which costs \$1.50 per ton for a distance of 900 miles. The limestone is brought 90 miles at a cost of 60 cents per ton, while the coke pays \$1.75 per ton for transportation 200 miles by rail. These elements enter into the cost of a ton of iron as follows:

Ore, 1.669 tons @ \$1.50.....	\$2.503
Limestone, .479 ton @ 60 cents.....	.287
Coke, .913 ton @ \$1.75.....	1.596

Total freight.....\$4.386

The furnace designated as No. 66 also well illustrates the disadvantages under which the Northern iron makers labor. In this case the ore is brought from the Lake Superior region, 1,000 miles distant, at a cost of \$2.50 per ton freight. The limestone is hauled 25 miles and pays 50 cents per ton, and the coke pays \$1.35 per ton freight for transportation 140 miles. There is one point about the figures of many of these Northern furnaces that is not quite clear and is apt to be misleading. The freight charges on ore from points 1,000 miles distant often appear as \$2.50, but it is probable that this rate is from a lower Lake port to the furnace, and does not include the charge paid on the Lakes, which is included in the price of the ore, the sales of Lake Superior ores usually being made to include the cost of delivery at some lower Lake port. The entire transportation charges from the mines to furnace would figure considerably above the figures that are given. This point does not affect the aggregate of the costs, but, as stated in Mr. Wright's report, it is apt to create the impression that Northern iron manufacturers get a \$2.50 freight rate for a 1,000-mile distance, which is not in accordance with the facts.

The comparisons that have been made show the points of difference in the conditions under which the Northern and Southern coke furnaces work, and the superior advantages in the matter of the cost of assembling raw materials which lie with the Southern manufacturers. But it is not with the Northern coke furnaces so much as the Northern anthracite and coke furnaces that the Southern iron industry comes into direct and telling competition. The western half of Pennsylvania, where the bulk of its coke iron industry is located, is not, and never has been, a natural market for Southern iron. The Eastern portion of the State, where anthracite fuel still forms the main reliance of the iron makers, has probably felt the effect of the rapid rise of the Southern iron industry more than almost any other section of the country. That portion of Pennsylvania has been gradually shut off from the markets of the West by the growth of the coke iron industry in the western part of the State, and the market of the iron manufacturers in Eastern Pennsylvania has been narrowed down to local demands and the trade of New England. The ready access which Southern iron manufacturers have to Eastern Pennsylvania and New England by water has enabled them to step into all the markets of their competitors of Eastern Pennsylvania. For a long time Southern iron manufacturers have been able to lay



down their iron in Philadelphia, Baltimore, New York or Boston at a lower price, freight paid, than the manufacturers of Eastern Pennsylvania could offer. These Pennsylvania competitors of the Southern iron makers are under a very heavy handicap in the high cost of fuel and the exorbitant freight charges on raw materials. Reference has already been made to these elements in a general way, and their consideration in detail is now in order. Following the method of comparison that has thus far been used, the freight costs have been figured out for those furnaces that use mixed anthracite coal and coke for fuel. It may be assumed that they are located in Eastern Pennsylvania, as there are but three New York furnaces in Mr. Wright's list. There are not many of these furnaces for which figures are given, but all that are available are included in the table which follows:

NORTHERN ANTHRACITE AND COKE FURNACES.			
No.	Total cost of iron.	Freight on materials.	Percentage of freight.
21.....	\$16.35	\$3.52	52.09
26.....	15.39	8.08	52.47
41.....	14.12	4.03	28.55
42.....	13.59	4.07	29.98
46.....	14.61	5.61	38.41
52.....	16.95	\$1.89	.....
70.....	15.50	4.27	27.58
75.....	13.62	4.07	29.73

\*Transportation on limestone not given.  
 †Transportation on ore not given.  
 Average cost of iron per ton \$15.01.  
 Average freight on materials of iron made, \$5.07, equal to 33.78 per cent. of total cost.

In the absence of substantial evidence many men would be disposed to doubt the truth of such a statement as the proportion of freight paid on raw materials by the furnaces numbered 21 and 26, but the details as set forth by Mr. Wright upon the authority of the manufacturers themselves sustain the figures given above. In the case of No. 21 the ore is brought 3,000 miles by rail and water. The charge is not given, but by substituting \$3.75, which is the rate paid by No. 26 for the same distance, the results reached are probably correct. Limestone is omitted entirely in this calculation, as the figures do not appear, but the distance is given as 30 miles. Coke is carried 300 miles at a charge of \$2.39 per ton. The anthracite coal travels 175 miles and pays \$1.25 per ton freight. The freight total is made up as follows:

Ore, 1,820 tons @ \$1.75.....	\$3.185
Limestone, .487 ton.....	.85
Coke, .446 ton @ \$2.39.....	1.066
Coal, .500 ton @ \$1.25.....	.625
Total freight.....	\$5.731

No. 26 has substantially the same conditions, and pays the same charges as No. 21 in assembling its raw materials. Its limestone is brought only five miles at 25 cents per ton, as against a haul of 30 miles by No. 21. In the case of No. 41, which shows the lowest figures, the ore and limestone are close at hand, but the coke is hauled 425 miles, and the coal pays an exorbitant rate of \$1.60 for a haul of 130 miles. No. 42 pays practically the same charges. The total freight cost for No. 41 is made up as follows:

Ore, 2,447 tons @ 20 cents.....	\$4.894
Limestone, .587 ton @ 45 cents.....	.264
Coal, .650 ton @ \$1.50.....	.975
Coke, .893 ton @ \$2.90.....	2.589
Total freight.....	\$8.722

No. 46 furnishes a conspicuous example of the excessive freight charges on crude materials in Eastern Pennsylvania, the rates paid by this furnace being as follows:

Ore, 80 miles @ \$1.25 per ton.....	\$10.00
Limestone, 70 miles @ \$0.50 per ton.....	3.50
Coal, 175 miles @ \$2.00 per ton.....	35.00
Coke, 200 miles @ \$1.75 per ton.....	35.00

Sufficient evidence has been submitted to substantiate the claims of the South to cheaper materials for iron making and a lower cost of assembling them, and it is now necessary only to present a summary of the conditions as they have been shown in detail. For this purpose the following table will suffice:

	Aver. cost of iron.	Aver. freight on materials.	Aver. per ct. freight.
Southern coke.....	\$10.70	\$1.75	16.37
Northern coke.....	13.79	4.34	30.75
Northern anthracite and coke.....	15.01	5.07	33.78

Such an insight into the costs of making iron in this country as is given in Mr. Wright's report has never before been presented, nor has there ever been such a chance for comparing the conditions that exist in the different iron-making regions. In a careful study of the figures there is no point that is brought out with more prominence than the comparative costs of assembling the raw materials in the North and South. In this respect, as indeed in nearly every feature of the iron industry, the advantage lies upon the side of the South beyond question or doubt. It requires no perversion of facts or figures to show this, as this feature stands boldly out in Mr. Wright's figures. The figures are too plain to admit of a mistake in their meaning, and the source from which they come should place them above dispute.

### Greensboro, N. C., as a Steel-Making Point.

GREENSBORO, N. C., August 11, 1890.

Editor Manufacturers' Record:

The following figures give some idea of the advantageous conditions under which the operations of the North Carolina Steel & Iron Co. will be conducted:

COMPARATIVE ORE HAULS.	Miles.
Pittsburgh from Marquette.....	908
Pittsburgh from Ashland.....	933
Pittsburgh (foreign ore) from Philadelphia.....	354
Steelton, Pa., (for'n ore) from Philadelphia.....	106
Steelton, Pa., from Lake Superior region, about 1,000 Sparrow's Point, Md., from Lake Superior region, about.....	1,250
Chicago from Lake Superior region.....	400
Greensboro, N. C., from Ore Hill.....	40

It is apparent that Greensboro has the advantage of many hundred miles over any of the other points named in the ore haul.

COMPARATIVE COKE HAULS.	Miles.
Pittsburgh, Pa., from Connellsville, Pa.....	56
Steelton, Pa., from Connellsville, Pa.....	26
Sparrow's Point, Md., from Connellsville, Pa.....	300
Chicago, Ill., from Connellsville, Pa.....	563
Greensboro, N. C., from Pocahontas, Va.....	245

These figures show an advantage in favor of Greensboro over all the others except Pittsburgh, and this is more than counterbalanced by the difference in the ore haul. Every one of these Northern companies have their ores to buy. Where Lake Superior ores are used in the furnaces the cost of ore to make a ton of Bessemer pig ranges from \$10 to \$12.50. Where Cuban or Spanish ores are used there is an import duty to pay, long water hauls, commission charges, a handling, and to the interior furnaces a long railroad haul, which puts the cost of the ore about the same price per ton of Bessemer pig as that of Lake Superior ores. Not so with Greensboro. To mine and put the ore on the cars at Ore Hill costs less than 50 cents per ton; the freights to Greensboro 30 cents per ton. Thus the cost of ore at Greensboro to make a ton of Bessemer pig is only about \$1.50, because the mines belong to the company, and they do not have the ores to buy, thus enabling the North Carolina Steel & Iron Co. to make a ton of Bessemer pig for less money than what it costs Pittsburgh, Steelton, Chicago or Sparrow's Point to buy the ore and place it in their stock-house to make the pig out of, an advantage in favor of Greensboro of an average of \$10 per ton. The cost in some instances here is not as great as in others, but the average in the main is correct. Bessemer pig can be made at Greensboro as cheaply as in England, because in England, as in America at the Northern furnaces, ores from Spain and Algiers are used. Their cost in the stock-house added to their coke hauls make the cost of a ton of Bessemer pig in England as high as at Greensboro.

That the ore is Bessemer ore is evidenced by the testimony of such men as Commodore Wilkes, Prof. E. Emmons, Dr. F. A. Genth, Prof. W. C. Kerr, Prof. C. D. Wilbur, John Fulton, S. A. Richards, H. B. Nye, Frederick H. Smith, Prof. P. B. Wilson, Prof. George B. Hanna and many others who have had long years of experience in such matters.

## THE MISSISSIPPI RIVER.

### What It Needs and Why It Needs It.

The MANUFACTURERS' RECORD is able to present this week one of the most important and valuable of its series of articles on Mississippi river improvement, from the pen of Capt. Smith S. Leach, United States engineer, now located at Boston, formerly of Memphis. Capt. Leach was for 12 years in active charge of Mississippi river improvement operations, for 5 years secretary of the Mississippi river commission, and for 7 years United States engineer in charge of government work on the river between Cairo and the mouth of White river. He is regarded by the people of that section as one of the ablest engineers in the army, and by many thought to understand the phenomena of the Mississippi river better than any engineer since the time of Capt. Eads. Capt. Leach's paper is given below:

The popular conception of the Mississippi river is that it is simply a stream of water; that its channel is nothing more than a containing vessel, oblivious of its contents; that its floods are only the spilling out of a portion of the water at times when the vessel is too small for its purpose, and that the remedy for such an overflowing river is the same as for an overflowing tub.

The Mississippi is a stream of water, to be sure, but it is very much more than that. The water carries in suspension a varying but always considerable quantity of sediment. Its channel is a plastic conduit, formed by the river itself, and as sensitive to its demands as a mother to the caress of her child, undergoing incessant changes in response to the moods of the current. These changes, so far as they affect the capacity of the channel to do its work, are of two kinds, one of which makes the bed larger and is beneficial, while the other makes it smaller and is detrimental. Both depend upon the ability of the water, considered as a vehicle, to carry the sediment, considered as its load. The vehicular power of the water is derived solely from the fact that it is in motion, and the best index of this power is the amount of motion as represented in the velocity. Changes which make the channel larger are caused by the moving water taking up material from the bed and carrying it away and are the result of accelerated velocity. Changes which make the channel smaller are caused by a portion of the sediment in suspension being deposited on the bottom and are the result of diminished velocity. The conditions of the problem are so infinitely various that no exact relation has been or can be established between the velocity of flowing water and its sediment carrying power. But thousands of concordant observations demonstrate that no matter with what velocity the river is flowing and no matter what amount of sediment it may be carrying, if the velocity be decreased, some of the sediment will be deposited. The converse of the proposition, though equally true in the aggregate, is more subject to exception in individual cases. A man is ever more ready to lay down a burden than to take one up, and a river may be excused for manifesting a like disposition. Changes unfavorable to the efficiency of the channel being produced with greater facility than those favorable, the general tendency of the river in its natural condition is to deteriorate.

The channel which the river now has is the net result of its present silt-transporting power. Any channel which it may have in the future will be the result of the same cause, the then silt-transporting power, and will be better or worse than the present one accordingly as the silt-moving power of the stream has been increased or diminished by natural agencies or human effort. In all questions of the regimen of this river and of changes in it for the purpose of improvement, the matter of first and paramount importance is the effect upon the velocity. Every scheme advanced, no matter by whom or for what reasons, should be at once subjected to this crucial test and made to stand or fall by the result. Any plan, the result of which is to diminish the velocity throughout a section of the channel, is vicious and the advantages promised by it illusory. Plans which tend to conserve or increase the velocity are beneficial, and any disadvantages which may accompany them will be temporary. The velocity is the unerring touchstone which distinguishes the true metal of every applicant for favor, which discovers an enemy in the flattering and boastful outlet, and discloses a friend in the conservative and commonplace levee.

The escape of water from the channel of the river at any point or under any circumstances is accompanied by a reduction of velocity below the point of escape, and by deposits in the area of reduced velocity. A steeper slope is required to maintain the discharge through the diminished cross-section, and the increased slope is obtainable only by an increased height of flood surface above the obstruction. Numerous actual measurements in the bed of the river preclude any doubt of the truth of this proposition. They prove that the escape of water from the channel is accompanied by deposits below, which fact granted, the other changes stated follow as consequences of the elementary laws of hydraulics. The results have been published in detail and so widely distributed that persons desiring information can easily obtain them, and those otherwise inclined would not be benefited by their repetition here. One instance, however, of recent occurrence and of momentous significance will be given.

During the last flood a crevasse in the levee at Nita, La., on the east bank, about 60 miles above New Orleans, having a width of 3,000 feet and a depth of 15 feet, was found by actual measurement to have a discharge of 400,000 cubic feet per second, or 30 per cent. of the entire discharge of the river immediately above the crevasse. As the result of this great outlet the depression of flood surface immediately below the break, where there is a permanent gauge, was one and one-half feet, while at New Orleans, 60 miles below, it was only one foot, and at Plaquemine, 50 miles above, this crevasse had no effect at all. This case shows conclusively that even the engineers who have opposed outlets for the reasons above set forth, have conceded entirely too much as to the immediate relief afforded by depression of flood surface, both in its amount and its extent, and have, by their frankness, given unwarranted aid and comfort to the outlet supporters. That outlets must disappoint the expectations of their advocates as to the amount of lowering of flood surface for a given volume of escape, was noted by the able pioneers in this subject, Generals Humphreys and Abbot. Lacking actual measurements, they supported the proposition by a very ingenious method of indirect proof, which showed in part, but not completely, the futility of outlets as a means of flood relief. In the case of this year, just cited, an actual outlet was in operation, and all the quantities involved were directly measured. It is a gigantic clinic upon an aggravated case of the outlet plague, and shows that as a means of



inoculation against overflows the outlet is a distinct failure. It has long been conceded that nothing in the way of benefits could be looked for from an outlet, except a temporary local depression of flood surface proportionate to the amount of water taken out, and now it appears that this last surviving hope is shattered. The relief afforded is so trifling as compared with the effort and risk of obtaining it, the effect so insignificant as compared with its cause, that if all the evils of outlets were discredited, there would still be no excuse for making them. A mountain in labor to bring forth a mouse does not surpass such a project as an example of fruitless endeavor.

The size and form of the channel are the result of the effort of the stream, the size determining its sufficiency as a flood chain and the form its usefulness as a route for navigation. That both are defective is not because the energy is lacking, but because it is misdirected. It has already been intimated that less energy is required to prevent a deposit than to remove it after it is made. So, also, it is far easier to maintain a channel once formed than to open a new one. The river has ample energy to maintain a channel of proper navigable depth and discharging capacity if it can be made to work, as every agency should work to the best advantage and without waste of effort. That it does not so work is due to the fact that the discharge and elevation of the surface are momentarily changing, and with them the positions of bank lines and the location and direction of the line of greatest velocity and maximum effort. No sooner is a sufficient channel obtained in one place than the current leaves it to be obliterated by deposits, while the work which would have easily maintained it is wasted in scouring out a new and inferior one, or perhaps dissipated among several. Every mile of the river is a witness to the truth of this proposition, since the places where the thalweg is stable in position are invariably good and those where it is shifting are invariably bad. No exception to this rule can be found between Cairo and the Gulf.

What nature has failed to do, and what remains for man to accomplish in order to fit the Mississippi river to his wants and uses, is summed up in the one word *control*. Guide the current as the skillful workman guides his tool and it will not fail to carve out a channel commensurate in size with the magnificent agency employed and worthy of the greatest of rivers, traversing and draining the most fruitful and prosperous of countries.

The requisite control is to be obtained by a partial reversal of the present relations of the stream and its bed. It has been shown that the channel is the ready servant, the stream the imperious master. The inconstant current seeks a change and the subservient shore retires before it. In this respect, as regards the sides of the channel, the present relation of master and slave must be reversed. The servile banks must be strengthened and incited to revolt against their tyrant and to impose a like bondage in return. The current, no longer able to shift at will, devotes its energy to scouring out the bottom, working constantly on the same line and always to the best advantage. The stream acting under such constraint will mould its channel to the largest attainable size and discharging capacity, and in the form best adapted to the needs of navigation.

Although this is a statement of theories, it may not be amiss to interject a word as to practice. Types of structures have been evolved in the short experience already had, which may be relied upon to do the work expected of them, and which can be constructed at reasonable cost. A caving bank can be protected or a secondary channel closed with as much certainty as pertains to the building of a road or the

digging of a canal. Moreover, these structures have been built at a cost which will allow them to be applied to the entire river without exceeding the sum which the city of Manchester proposes to pay for a canal connecting her with deep water in the Mersey.

Control by means of protected banks is complete and sufficient only so long as the river is within its banks. When it rises above their level the control becomes partial and necessarily inadequate. In years of great floods the surface of the water is above the natural bank level from two months at Cairo to six months at New Orleans. Without artificial restraint nearly one-third of the entire discharge of the river at extreme flood takes place outside its proper channel, as was the case in 1882 above Vicksburg and in 1890 above Helena. The proportion decreases as the bank level is approached, but the aggregate loss of volume during a flood period is enormous. It has been shown that the fundamental principle upon which the improvement is based is the *control of the water in the channel*. To allow large quantities to escape, reaching at times one-third of the whole, does violence to every idea which can possibly be associated with the word *control*. Water flowing in the channel is the agency of improvement, and when any of it escapes a part of the potential goes with it, and a corresponding measure of the improvement is sacrificed. The current is to be guided so as to do the desired work; the more water the more current, and the more current the more work. When the volume is at a maximum the current has its greatest capacity for work, and will then produce results beyond those which it can attain at any other time. To secure the greatest possible improvement of the channel it is necessary that the greatest attainable volume of water be made to flow through the channel. That this condition is not realized when a large volume is escaping over the sides needs but to be stated to be conceded.

The necessary control of the current beyond that produced by the natural banks, reinforced by protective works, is effected by means of artificial embankments placed on the shores, and of sufficient height to restrain the highest floods. Logically they should follow the shape of the banks, and in practice they do so as far as other and controlling conditions permit. Prevention of escape is control in a large measure, and for that purpose levees as now built are fully effective, for they limit the escape to the relatively insignificant volume contained between them and the edges of the channel.

The difference between the effect of a given diminution of velocity in producing deposit and that of equal acceleration in producing scour has been noted. The distinction is a very important one, and finds a new application in this connection. It makes possible a great number of the improved channels in other waters which have been opened by dredging and have then been maintained by the force of a current which had been powerless to excavate them. Deposit is by its nature a gradual operation, requiring time for its accomplishment, and therefore depending on average conditions. Scour is a more sudden phenomenon, and largely depends on maximum conditions. It is a matter of common observation on all silt-bearing streams that deposits decrease rapidly in rate at higher levels and rarely extend above the average flood plane. The velocity, which represents the possibility of scour, increases regularly when under control to the extreme flood level, the increment for the last foot of rise being as great as for any other foot. A mistaken analogy with the depositing action has caused too much weight to be given to the element of time in producing scour, and has given color to the idea that control of

high waters might properly cease at some stage below extreme flood. The utmost limit of channel development, which means the greatest measure of improvement, will result from the greatest intensity of the force which creates the channel and from no other cause. That greatest intensity of erosive force will result from the complete restraint of the greatest floods and from no other cause. Great floods recurring at intervals of several years and confined to the bed of the river will create a channel which but for such floods and such restraint never could be created. That channel periodically established, the lesser intervening floods will maintain at a size greater than they could themselves have produced, so that the degree of improvement as maintained will depend upon the magnitude of the greatest floods which are controlled and will reach a maximum only when all floods are controlled.

In its natural condition the channel deteriorates. The deterioration must be stopped and a condition of improvement substituted. The cause of the deterioration is the escape of water from the channel. The remedy is to remove the cause, which can only be done by confining the floods. The improvement of the channel is to be effected by the control of the current. The control at all stages, within or above the banks, will be more effective if the floods are restrained. To depend upon channel works alone is to attempt the improvement with the causes of deterioration in full activity and is as great a waste of effort as to draw a wagon with the brake set. The complete restraint of floods stops the deterioration of the channel, and at the same time develops to the highest possible degree the forces which tend to its betterment. By a happy coincidence the construction of levees realizes a combination of the greatest force for improvement and the least resistance to its action. That larger results will be obtained under these conditions than can be hoped for otherwise does not admit of a doubt. That the importance of the Mississippi river, the magnitude of the interests depending upon it, and its influence as a factor in the prosperity of the whole country, deserve and demand the most complete and perfect improvement attainable is equally certain.

If any proposition more than another is inconsistent with everything that has been stated in this paper, it is one which has obtained wide currency and on which opposition to levee building is largely based, that levees cause deposits in the channel and thereby raise the bed of the river. The votaries of this doctrine ignore the testimony of the Mississippi itself, which is conclusive against them, and depend upon an alleged analogy with the Yellow river of China, about which no one knows anything, and with the Po, of which everything that is known refutes their hypothesis.

Another argument against the attempt to confine the floods is that it is an impossible undertaking; that it never has been accomplished and never can be. The facts are that the flood of 1890 was the largest on record from Helena to the Gulf; that it was confined between levees over the same distance with a loss of only one mile in 300, as against one in 22 in 1882, one in 35 in 1883 and one in 120 in 1884. If this be failure what is success? A reasonable man will not abandon a cherished undertaking while his resources are unexhausted, and his last effort is markedly more successful than any previous one.

With the advantages of levees unappreciated, their difficulties exaggerated and dangers asserted when none exist, it is small wonder that the cause has languished, and that its active advocates have been suspected of carrying their convictions and their purses in the same pocket. Private interest has compelled the residents of the Mississippi valley to study the question,

and study it deeply. They have learned by that study that there is a public interest, which will be benefited jointly with their private welfare by the construction and maintenance of a system of levees, and their appeal has no more sinister purpose than to secure an equitable co-operation of that joint interest in the pursuit of the common object.

### New Enterprises at Dallas.

DALLAS, TEXAS, August 4, 1890.

*Editor Manufacturers' Record:*

Hardly a week passes that some new enterprise is not developed in Dallas. Last week a Philadelphia syndicate purchased for \$750,000 a controlling interest in the stock of the Dallas Consolidated Street Railway Co. Out of this deal grew the Consolidated Traction Co. with \$1,250,000 paid-up capital. They went immediately to work to issue thirty-year six per cent. bonds, the proceeds to be spent in improving and extending the system. One of the first moves will be to change the entire system of road, being 25 miles in operation and several miles under construction, to electric motor power. The Oak Cliff Elevated Railway Co. is building 10 miles of electric railway, which will form a belt around the suburbs of Oak Cliff and have two entrances into the city. Work is making fine headway on the cable railway, which has its starting point on the river at the extreme western boundary of the city and passes out Elm street to the fair grounds, in all about four miles. The company will put in one of the finest power houses in the West, and make extensions which will run the aggregate cost of this road up to about \$600,000. A franchise has been granted for an electric railway to East Dallas, also another to North Dallas. The North Dallas road, after reaching the city limits, will branch out in three directions. One line will go to the Christian college for young ladies, which is to be erected at a cost of \$100,000; the other will go to the city's 250-acre park and bring into accessibility the intervening suburbs; the third will connect the city and the Manufacturers' Aid & Improvement Co.'s property. A portion of the material for these roads is on the ground; some grading has been done and the work of construction will make rapid progress now until the roads are completed.

The Manufacturers' Aid & Improvement Co. have just closed negotiations which secure location on their property of a cotton mill which will cost set up \$300,000. It will be a mill of 25,000 spindles and it will employ 500 operatives. One hundred cottages to cost \$1,000 each will be erected for homes for the operatives, and these, in addition to the houses which have been built for the buggy factory employees, will make quite a village of workers located on the Manufacturers' Aid & Improvement Co.'s reserve. Eastern capital solely is responsible for this magnificent enterprise, which adds to Dallas another important sinew for future development and expansion. A cotton weaving mill has been located in South Dallas. This gives Dallas three cotton mills, employing in the aggregate 800 operatives. The first of these mills began operations two years ago, and the last two have been secured this year. There is no reason why Dallas should not become a very large cotton manufacturing city, and recent developments tend in that direction.

The large buildings for the Dallas Packing & Refrigerator Co. are nearing completion, and the machinery is arriving and being placed in position. The works will be started by the middle of next month. The daily capacity of the plant will be 300 hogs, 250 beeves, 100 calves and 200 sheep. This is a new industry in Texas, the product of which is in great demand, and until now has been supplied from Kansas City and St. Louis—Texas, however, supplying the beeves. But the day is here when it is proposed to manufacture the wealth-producing raw material at home.



## MISSISSIPPI RIVER IMPROVEMENT.

Letter from President Ammidown, of  
the American Protective Tariff  
League.

AMERICAN PROTECTIVE TARIFF LEAGUE,  
No. 23 W. Twenty-third Street.  
NEW YORK, August 2, 1890.

Editor Manufacturers' Record:

I am not a civil engineer, and if I were I should not be competent to express an opinion as to the proper way of carrying on the improvements which have been proposed from time to time regarding the Mississippi river. I have never given the subject the examination necessary to qualify any one to express an opinion in detail concerning the proposed improvements. I have, however, for many years considered the subject in a general way as any American citizen might consider any subject which concerns the prosperity of the whole country.

The United States Government has always been inexplicably indifferent to the development of its own resources. Every other civilized country in the world has expended, or is in the habit of expending, large sums of money to develop the advantages which might be derived from its own natural resources. The severe economy which has been constantly practiced by our national legislature in respect to what are called the river and harbor improvements, and in earlier times in respect to internal improvements, has always seemed to me incomprehensible. It would appear at first thought as if propositions for the development of our internal and coastwise resources involving a liberal expenditure of public money, thereby distributing wealth freely among the people and at the same time providing them with advantages for their direct advancement of the own welfare and for increasing the wealth of the whole country, would be so attractive to all the people that they could not fail to command approval and bring credit to him or those who proposed and voted for them.

Any one who has witnessed the great public works on the continent of Europe, whereby trade and commerce have been facilitated, and the products of one section of the country may reach markets in every other section with the least possible cost, cannot fail to recognize the contrast between the public spirit of the old world and the niggardly, short-sighted policy which has hitherto characterized in this respect the government of the United States.

Every enterprising and intelligent man is ready to commend the spirit and good sense of private individuals who expend money wisely for the development of their own property, whether farms or factories or city lots. When it comes to the expenditure of money for the improvement of the continent or of the whole country known as the United States, the sentiment seems to change, and the proposition for expenditures is met with the frown of disapproval. So long as this spirit prevails it will be impossible to secure appropriations from the general government sufficiently large to undertake these improvements of the Mississippi river and its tributaries, which are demanded if permanent results are to be achieved or important advantages are to be secured.

I will not undertake to say what these improvements should be, how far they should extend, or how much money should be appropriated for them, but I should favor the appointment by the President of a permanent board composed of the highest civil and military engineering talent of the country, for the purpose of determining a general plan for the utilization of the Mississippi and its tributaries in the interest of the general welfare of the people of this country. The scope of the duties of such a board should not be limited to the exist-

ing demands for the improvement of the Mississippi, but it should take in the possible demands of the future for ages to come, looking forward to the time when the valley of the Mississippi and its tributaries will be the home of hundreds of millions of human beings, to whom the waters that flow therein will be like the breath of life, and the control of these waters will be as indispensable to their prosperity as the light of the sun is to life itself. The scope of such a board should not be limited to the construction of levees to limit and confine the course of the rivers, but should embrace the project of establishing a steady and permanent flow of water for the purposes of navigation, and should go farther, so as to outline such a system of canals as would bring all parts of the country into direct communication with the natural streams, thereby securing the utmost cheapness of transportation and the greatest possible convenience for intercourse between all parts of the country.

This scheme, it is true, is too broad and comprehensive to be put into immediate execution, but it should nevertheless be embraced in the general plan towards which all immediate efforts should be directed, and no step should be taken to-day that would not contribute to the accomplishment of the grand object to be achieved in the distant future. Very truly yours,

EDWARD H. AMMIDOWN.

## The Brazos Harbor.

SKOWHEGAN, ME., July 30, 1890.

Editor Manufacturers' Record:

Will you please inform me through the medium of your valuable paper what is being done regarding the building of a city at the mouth of the Brazos river, Texas? Yours truly, S. H. HART.

A company made up of and managed by prominent and successful business men is constructing works to secure a deep water harbor at the mouth of the Brazos river. The men in charge of the undertaking are leaders in industrial development, and have been eminently successful in every enterprise they have had anything to do with.

The work has been vigorously pushed, and its results have exceeded the expectations of its projectors. We believe it is now expected that a continuous and permanent channel of not less than 20 feet in depth will be secured within the next two months. The company owns a wide belt of land on each side of the river for several miles above its mouth. At the most feasible point in the river for a commodious harbor, it will lay out a town. The company will build and operate railroads, bridges, elevators, warehouses, wharves, docks, tugs, &c., and it is believed that a great seaport and manufacturing city will quickly grow up around the nucleus thus provided. We believe no actual work has yet been done towards building up a city, the company having thought it wiser to defer operations of this sort until a sufficient depth of water had been secured to make possible a large shipping business at the start.

THE name of Marksville, Va., has been changed to Stanley City. Stanley City is situated on the Shenandoah Valley Railroad about 8 miles from Luray. Several springs of lithia water are found there. Manganese is said to exist in great quantity at this place, and a furnace and steel works are said to be among the possibilities of the near future.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

## GENERAL NOTES.

MR. W. J. RATTLE, of Rattle & Nye, Cleveland, Ohio, is at present making a thorough geological survey of the country about Bristol, Va., and Cranberry, N. C. We understand that several large enterprises are dependent upon the results of Messrs. Rattle and Nye's examinations. Mr. Rattle was the expert engaged by the Philadelphia syndicate to make examination of the Sigua Iron Co.'s lands in Cuba, and it is rumored that the same parties are behind the present movement.

THE reference book of the Norfolk & Western Railroad Co., just issued, is a handsome little volume of over 90 pages containing numerous illustrations. The book is a complete guide for travelers on the Norfolk & Western System, and briefly mentions every station on the line, giving short descriptions of almost all of them. The illustrations are well executed. Among them are views of Norfolk & Western's terminal at Lambert's Point, general offices of the company, Hotel Roanoke, Crozier Iron Co.'s plant, the Natural Bridge, the Buena Vista furnace, Graham Inn, the projected depot at Bristol, Va.-Tenn., and about seventy other interesting views. In the front part of the book is a very excellent map of Virginia and West Virginia and portions of bordering States reached by the Norfolk & Western. Copies of this volume can be secured upon application to officers of the company at Roanoke or Philadelphia.

THE Dunlap Coal, Iron & Railway Co., which recently completed its organization, is the owner of 2,500 acres of town-site, including Dunlap, Tenn., 10,000 acres of coal lands on the Cumberland mountains about 1½ miles distant from that town, and 10,000 acres of iron-ore lands occupying the face of Walden's Ridge upwards of 10 miles and 2½ miles east of Dunlap. The coal property is underlaid with the famous Sewanee seam, which is 5 feet thick and considered excellent for coking purposes. The company intends building an iron furnace and a number of coke ovens; also a railroad from Chattanooga to Dunlap, thence to Louisville, Ky. The company has command of a large amount of capital, and contemplates the early development of its coal and iron mines and the improvement of its town-site.

ANOTHER manufacturing suburb is about to be added to the number already established around Chattanooga. The title of this new accession is to be South Lowell. The South Tennessee Land Co., which owns about 1,000 acres of land at East End, proposes to expend a large sum in laying off the property in town lots, sewerage, grading, curbing streets and other improvements. The locality has several industries which, according to the report, will be augmented by the addition of a cotton factory, engine works and other manufactories.

H. C. PARSONS, a starch manufacturer of Clinton, Mass., has been prospecting at different points in the South with a view to locating a plant. He has recently reached Brunswick, Ga., and is, it is stated, so well pleased with the advantages of that section that he decided to locate the plant in or near Brunswick.

THE Holyoke (Mass.) Democrat says: "Frank A. Haywood, at one time connected with the Democrat, has another big scheme on foot, and that is arranging for an excursion of members of the Business Men's Association of Norfolk, Va., to visit New York city and New Haven, Meriden, Hartford, Springfield, Holyoke, Worcester and Boston in October. There will be from 70 to 100 gentlemen in the party, Mr. Haywood says, all of them prominent business

men, and many of them—perhaps most of them—visiting New England for the first time. Mr. Haywood was in Hartford yesterday and arranged with Governor Bulkeley and Mayor Dight for some State and municipal courtesies to the Virginians, and he called on Mayor Bradford and President Stone, of the Springfield Board of Trade, later to see about some public reception there. Mayor Morris, of Norfolk, expects to accompany the party, and if any opportunity is offered for public speaking, there is no doubt but the visiting party will give a good account of itself. The interchange of visits and social courtesies between Massachusetts and Virginia cannot but be productive of good results." In consideration of the fact that but a few weeks ago a delegation of Massachusetts visitors made a trip through Virginia, the proposed tour of the Virginians through the Bay State is rendered all the more appropriate.

THE location of machine shops at Charlotte, N. C., by the Richmond & Danville Railroad Co. has been a matter of much conjecture for some time. The MANUFACTURERS' RECORD has received authoritative information to the effect that the company has no idea of moving any of its present shops to that city, but the large additions being made to the motive power and equipment of the company necessitates the building of additional shops, and the chances are that one of them will be erected in Charlotte.

MR. ANGUS CAMERON, of Cumberland, Md., who recently bought for himself and English associates several tracts of Florida phosphate lands, is now in Florida again, and has just secured some of the finest tracts of high grade phosphate deposits. He will erect large works for handling the phosphate.

ALABAMA'S cotton crop looks very promising, and it is said that the yield will be larger this year than last on the same acreage. The crop will not be small by any means there, as the acreage has been considerably increased this year. In New York the report that the members of the Cotton Exchange were striving to corner the market in London is denied. There is a slight squeeze in July cotton in New York, and August deliveries are affected thereby.

NOT only in Louisiana, which was noted a few weeks since, but in Georgia, the rice crop promises to surpass all expectations. The rice mills expect shipments this year by September 1 or the latter part of August. The rice market is exhausted, and on that account a high price will, it is thought, prevail. In China, Japan, Burma and Siam the crop is said to be almost a total failure, which will, of course, greatly increase the demand for Southern rice.

AFTER an extended sojourn in the East, Mr. W. E. Scarritt, president of the Coal & Iron Bank, said to a Middlesborough News reporter: "I find that Middlesborough is much talked of all over the East, and manufacturers and people generally are anxious to learn all about our city. I talked with a large number of manufacturers who are anxious to remove their plants here. They heard all about us now and are going to investigate us thoroughly this fall. Several of them assured me that if things are as I represented them they will move their plants here. I told them nothing but facts, and I think several of them are likely to locate at Middlesborough. Among those I got interested are a screw works, a gun works and several iron-working establishments. These people feel that the time has come for them to change their base of action, and they want to come down here where raw material can be had for about half what it is costing them now."



## A COMING CITY.

Suffolk, the County Seat of Nansemond—Her Transportation Facilities—Inducements to Manufacturers.

[Special Cor. MANUFACTURERS' RECORD.]

SUFFOLK, VA., August 9, 1890.

The most important factor in the up-building of a city is abundant transportation facilities. No matter how rich the minerals, how productive the soil or how progressive the manufacturers are, means of shipping must be had to place the various products on the market. While the railroad is recognized as the most valuable agent for transportation, yet the importance of the steamboat and the ship cannot be denied. A city which possesses both of these means of transportation is, indeed, doubly blessed. Such a city is Suffolk, the county seat of Nansemond county, Virginia. Situated at the head of navigation on the Nansemond river, 16 miles from Hampton Roads and 20 miles from the cities of Norfolk and Portsmouth, she has a splendid outlet to the sea. Six lines of railroad reach Suffolk, and two of them have their terminals here. These roads are the Norfolk & Western, Seaboard & Roanoke, Atlantic & Danville, Norfolk & Carolina, the Suffolk Lumber Co.'s railroad and the Suffolk & Carolina. The road last named is a narrow-gauge with third rail, and by agreements with other roads reaches all of the important industries of the place, and gives all of the lines connection with the wharf. Twenty-two passenger trains and two steamboats leave Suffolk daily. Vessels drawing 12 feet of water load their cargoes at Suffolk and ply regularly between Norfolk and Baltimore and Suffolk. Her population is 5,000, having nearly trebled since the census of 1880. Four female colleges are located here, one military academy, a college for both sexes, one white and one colored free school.

Suffolk is a city of splendid modern homes, and her society is composed of the best people. For a man who desires to remove to a busy city and raise his family where the associations are the most cultured and elevating, I advise him to go to Suffolk. The Episcopal, Baptist, Methodist, Christian and Presbyterian churches all have fine edifices and large congregations.

Commercially speaking, the stamp of industry and enterprise has already been indelibly fixed on Suffolk. There are in operation four planing mills, one shingle factory, one butter-dish and fruit-basket factory, one saw mill, one truck box factory, two oyster-shell lime factories, two brick-yards, one oyster packery, one iron works, two carriage factories, one kindling-wood mill, one ice factory one peanut factory, one cotton factory, one daily newspaper and two weeklies, one national and one State bank. The manufacturers mentioned employ regularly over 2,500 hands, and the disbursements made in this way add very largely to the material prosperity of Suffolk.

The East Suffolk Land Co. has undertaken a great work in the line of securing manufacturing for their city, and the methods they are pursuing are bound to prove successful. Their desire is not so much to sell lots as it is to induce worthy manufacturers to come here and locate their industries by giving them sites free of charge, with access to railroads and all shipping advantages. Where it becomes necessary, the company will render substantial assistance to the promoters of legitimate industries. By this method the growth of the place is made steady and substantial and without fictitious values. That the management of the company is in conservative hands the names of the officers and a few

of the stockholders, which appear below, will attest:

H. Irvine Keyser, president, Baltimore, Md.

J. W. Middendorf, treasurer, Baltimore, Md.

Charles H. Jones, Jr., secretary, Suffolk, Va.

Barton & Wilmer, attorneys, Baltimore, Md.

White & Garnett, attorneys, Norfolk, Va.

Stockholders: John Gill, president Mercantile Safe, Trust & Deposit Co. of Baltimore; H. Irvine Keyser, director Farmers' and Planters' Bank of Baltimore; O. A. Parker, of E. L. Parker & Co., tin importers, Baltimore; Skipwith Wilmer, of Barton & Wilmer, attorneys, Baltimore; J. W. Middendorf, of Middendorf, Oliver & Co., bankers, Baltimore; E. F. Larabee, of E. F. Larabee & Sons, leather merchants, Baltimore; Max Grief, of Grief & Bro., wholesale clothiers, Baltimore; John M. Robinson, president Seaboard Air Line, Baltimore; Chas. Selden, general superintendent B. & O. Telegraph Co., Baltimore; E. F. Bresee, Mutual Life Insurance Co., Baltimore; Hon. T. S. Garnett, of White & Garnett, Norfolk, Va.; Chas. H. Jones, Jr., vice-president Suffolk & Carolina Railway Co., Suffolk, Va.; E. F. Abell, proprietor Baltimore Sun, Baltimore; Leon Lauer, of F. Bergner & Co., Baltimore; D. B. Merryman, of Wm. Seemuller & Co., Baltimore; Jacob Hecht, capitalist, Baltimore; H. G. Vickery, wholesale dealer in bacon, pork and lard, Baltimore; Hon. C. H. Causey, attorney, Suffolk, Va.

The Suffolk & Carolina Railroad, having its terminus here, is deeply interested in the welfare of Suffolk, and what the Norfolk & Western Railroad is to Norfolk, so is the Suffolk & Carolina Railroad to Suffolk. But the Norfolk & Western Railroad, through its development syndicate, is equally interested in the future success of Suffolk, having purchased some three hundred acres of land adjoining the tract owned by the East Suffolk Land Co. Great inducements are offered to furniture factories, chair factories, hosiery factories, car factories, cotton factories, knitting mills, woolen mills, shoe factories, hat factories, foundries, brick and drain tile factories, spoke and hub factories, broom factories, cigar factories, fruit and vegetable canneries, fertilizer factories, woodenware factories, sumac and bark mills, barrel factories, ship-yards, shingle mills, shuttle block factories, machine shops and iron works, carriage and wagon works, straw goods factories and all kinds of woodworking factories.

Suffolk has good pavements, water works, an efficient fire department, and in four months the streets will be lighted by electricity. There is now being expended upwards of \$100,000 in new buildings and other improvements. I hold that Suffolk is going to be one of the coming great cities of the South, and not a great length of time will be required, either, to demonstrate the correctness of this prediction.

SAMUEL POLK.

A SYNDICATE of English capitalists is reported as purchasing the Cumberland Iron Works property in Tennessee from M. T. Scott, of Bloomington, Ill. This property includes 46,086 acres of land on the Cumberland river in Stewart county, about 100 miles below Nashville. Of this 26,000 acres are agricultural lands, and the remainder mineral lands containing extensive beds of charcoal iron. The syndicate is said to have incorporated in London the Cumberland Co., Limited, with a capital stock of £350,000, and proposes expending \$1,000,000 in the development of the mines and the establishment of industrial plants. Mr. Scott acquired the Cumberland Iron Works property two years ago, and is believed to have made a handsome profit by the deal.

## AT GLASGOW.

What Has Been Accomplished in Four Months.

A Young Virginia City Which Aspires to Become a Great Industrial Center—Operations of the Rockbridge Co.—The Natural Bridge Forest Association.

GLASGOW, VA., Aug. 2, 1890.

Editor Manufacturers' Record:

Four months' work of the mason, the carpenter and the painter have made a marvelous change in the appearance of Glasgow. In that time a fertile field has been transformed into a prosperous town. One hundred buildings have been erected at an average cost of \$1,000 each. The brick works was the first manufacturing establishment to get in operation. It is equipped with modern machinery, and the bricks are of an excellent quality. Last Tuesday the machinery at the woodworking manufactory was set in motion, and is working very satisfactorily. The capital stock of the company is \$25,000, and the plant is pronounced one of the best of its kind in the State.

In mercantile lines Glasgow has made a very creditable start. She has four general merchandise stores, one hardware store and a good drug store. The water works have been in operation about a month. The supply of water is abundant and of the finest quality. Three miles of water mains have been laid in the streets.

Much of the activity has been due to the energy displayed by the three building companies. They have a combined capital of \$150,000, and their operations have been quite extensive. Several brick storehouses are under contract which will cost \$25,000.

The Rockbridge Co. is pushing the work on their new hotel, to be known as "Glasgow Inn." It has a commanding situation in Rockbridge Park, where a beautiful view can be obtained of the James river as it breaks through the gorge in the Blue Ridge mountains. The park tract contains 160 acres, and will be laid off in beautiful drives. It is estimated that the hotel will cost \$100,000. It will be three stories in height, and will have verandas on each floor extending the full length of the building. It will contain 200 rooms, and will have a beautiful summer garden on top. A roadway has been graded from the hotel to the summit of Salling mountains, 1,380 feet above sea level and 600 feet above the town. This road makes a drive that is truly picturesque as it winds around the mountain. At the top of the mountain a pavilion and an observatory will be built.

The real estate movement has been healthy, and in all the transactions values have been well maintained. Non-residents have been heavy purchasers of lots recently. Among those are Governor Buckner, of Kentucky, and members of the Crittenden family of Kentucky.

I had a lengthy conversation with ex-Governor Lee, president of the Rockbridge Co. He is very much pleased with the prospects of Glasgow. The owners of iron properties in New Jersey, Pennsylvania and Ohio, he says, in several instances have expressed an inclination to establish rolling mills, machine shops and furnaces at Glasgow. The Governor feels that the negotiations now pending in London with a view to placing \$1,500,000 of British money in the treasury of the Rockbridge Co. for investment will be successful. He produced a cablegram from Mr. Anderson, the vice-president and general counsel of the company, who is now in London conferring with the board of directors of the British syndicate, which read as follows:

"London, July 28.—Business progressing favorably."  
ANDERSON.

Yesterday Governor Lee signed the con-

tract with the Lawrence Iron & Steel Works, of Ironton, Ohio, who will remove their business to Glasgow at once. The company employs 250 workmen, and the pay-roll will amount to \$3,000 weekly. This enterprise will add 1,000 souls to the population of Glasgow. Officers of the company will be here next week and make a contract for 100 houses for their workmen. Governor Lee also informed me that the Rockbridge Co. intends to build a track through the northern part of town to connect the Shenandoah Valley Railroad with the Chesapeake & Ohio. Manufactories located on this line will then have the two-fold advantage of receiving and shipping merchandise over both roads. The Shenandoah Valley Road is making arrangements to build a \$15,000 stone passenger depot here.

Considering that the ores are so near at hand, Glasgow cannot be outdone in the manufacture of iron. The Rockbridge Co. has reopened the Greenlee ore banks, which were famous in ante-bellum days for their extra quality. Recently a very rich deposit of iron-moulder's sand was discovered, and in speaking of the find the Glasgow Herald says: "This sand is pronounced by experts to be of the finest quality, and in all respects suitable for moulding fine castings. If this is true, as there is every reason to believe, it is a discovery that will put many dollars into the treasury of the Rockbridge Co., if it is properly made use of. It possesses peculiar properties which make it especially useful for moulding, and is of very rare occurrence. The most of it now used in this country is imported from Europe, and at a very high cost to users. The Rockbridge Co. is now having the sand put to a thorough test, and in a very few days will know the full value of the discovery. One expert of 25 years' experience states that he is thoroughly convinced that it is the moulder's sand of commerce of the best quality."

The Natural Bridge Park Association, the company which recently purchased large properties at Natural Bridge, will give considerable impetus to the growth and prosperity of Glasgow. Several gentlemen who have an interest in the Natural Bridge project are also interested in the Rockbridge Co. At Natural Bridge a new hotel containing 300 rooms will be built at a cost of \$150,000, and in the future Natural Bridge will be a winter as well as a summer resort. The proposed new building will be of stone, and will have large porches inclosed with glass and heated by steam. The scenery of the bridge equals if it does not surpass any spot on the American continent, and as the climate is suited to persons of pulmonary troubles, it can be made a delightful spot for health and recreation at all seasons. Thousands of dollars will be expended in the improvement of the roads and walks, and this work has already commenced.

Col. E. G. Peyton, the manager of the hotels, says that the Forest Inn house will be kept open during the coming winter. The house will be improved especially for the accommodation of winter guests.

DALLAS, TEXAS, is investigating the cause of its poor water pressure. The cause has not been discovered yet, but direct pressure has been ordered, which, it is thought, will obviate, to a great extent, the difficulty.

THE following information has just been received by the West Salem Land Co. from a correspondent in New Castle, Va.: The railroad is pushing ahead as fast as they can build it with the force they have, which is about 500 men. It begins to look like business here, with the new hotel and the bank building under contract, a number of dwellings now being erected, streets being graded on both sides of the creek, all of which brings Series C to the front.

*If you desire to establish*

## A COTTON MILL

where you will have every advantage that could be asked, Tredegar is the place. It is surrounded by a rich cotton district producing a fine grade of long staple cotton; it is one of the healthiest places in the South; labor is abundant and cheap; the purest freestone water can be had, and a cotton mill can get its raw material right at its doors. Fine steam coal can be secured at the lowest price, making steam cheaper than water-power. Transportation facilities are good, and everything that could be desired to make cotton manufacturing profitable is at hand. The old name of Tredegar, and the present name of the postoffice is Jacksonville. It is the county seat of Calhoun County, which produces thousands of bales of cotton annually and is one of the richest mineral and agricultural counties in Alabama. Its present population is about 2,500 to 3,000, but this will be greatly increased by the building of many new industrial enterprises. For information regarding Tredegar's advantages for cotton mills or other enterprises, address GOLDSMITH BERNARD WEST, General Manager, Jacksonville, Ala.

 A Steel Plant to employ 3,100 hands has just been secured.

[For other information about Tredegar, see next page.]



Tredegar offers the most inviting field in the United States for the establishment of manufacturing enterprises.

*It has Unequalled Advantages for*

Iron and Steel Works, such as Furnaces, Rolling Mills, Machine Shops, Foundries and everything using iron.

Car-Wheel Works, Car Shops.

Cotton Mills, Knitting Factories, and other Textile Industries.

Cotton-Seed Oil Mills and Fertilizer Factories.

Woodworking Industries of every sort, Saw and Planing Mills, Sash, Door and Blind Factories, Furniture Factories, Handle and Spoke Factories, Agricultural Implement Works, Carriage and Wagon Factories, &c.

Brick Works for making Building Brick, Vitrified Brick, Fire Brick, &c.

Sewer Pipe Works, &c.

And many other industries.

The most liberal inducements will be offered to those who desire to locate such industries.

*The Best Location in the Country  
for New Enterprises.*

# TREDEGAR, ALA.

*Here Are Found :*

The finest Hematite Iron Ores in the South.

Extensive Manganese Deposits that experts from Pennsylvania and elsewhere believe to be the greatest in the United States.

Vast Forests of Fine Timber, Pine and many varieties of Hardwoods.

Never-failing Mountain Springs with a daily flow of many million gallons of the purest Freestone water, besides Sulphur, Chalybeate and other Mineral Springs.

A climate that has no superior for all the year; malaria is unknown, and the nights are cool even in midsummer.

A Fertile Agricultural Country, where cotton, grains, grasses, fruits and vegetables yield abundant crops, and where fine Jerseys wade knee-deep in clover.

A population of 3,000, churches of all denominations, excellent schools, charming society.

A National Bank, Water Works, Fine Hotel, &c.

Steel Works, to include Furnaces, Rolling Mill, Rail Mill, Cotton Tie Mill, &c., and to employ 3,100 hands, under construction.

A Cotton-Seed Oil Mill and Fertilizer Factory under construction.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

*An Unequalled Field for  
Profitable Investment.*

# LAREDO, TEXAS.

## The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.  
Wool Scouring Mill.  
Tannery.  
Boot and Shoe Factory.  
Ore Concentrating Works.  
Ore Sampling Works.  
Cotton Gin and Milling Works.  
Mineral Water Bottling Works.  
Four Ice Factories.  
General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.  
Three Large Brick-yards and several smaller establishments.  
A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic Opportunities for Investment, Business or Manufacturing such as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works, two electric-light companies and one of the best equipped electric motor street railways in the United States.

Population.		Imports and Exports.
1886.....	3,000	
1888.....	6,000	1888.....\$ 3,000,000
1889.....	12,000	1889..... 10,543,000

*For Maps, Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address*

## THE LAREDO IMPROVEMENT CO.



# KIMBALL.

MARION COUNTY,

TENNESSEE.

## KIMBALL TOWN COMPANY.

**H. I. KIMBALL,**
**Vice-Prest. & Managing Director.**
**DIRECTORS.**

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.  
 CHARLES P. RICHARDSON, Capitalist, Chattanooga.  
 J. R. STEVENS, President First National Bank, Huntsville, Ala.  
 A. J. MORISON, Capitalist, London, England.  
 J. H. BRYANT, President Seattle Coal & Iron Co., New York.  
 GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.  
 H. I. KIMBALL, Atlanta, Ga.

**OFFICERS.**

President, HON. LOGAN H. ROOTS.  
 Vice-President, C. P. RICHARDSON.  
 Second Vice-President and Managing Director, H. I. KIMBALL.  
 Treasurer, J. H. BRYANT.  
 Assistant Treasurer, ED. E. RICHARDSON.  
 Secretary W. E. DONALDSON.  
 Assistant Secretary, W. BROOKS COVELL.

**ATTORNEYS.**

W. E. DONALDSON, Kimball.  
 SHEPHERD, WATKINS & BATES, Chattanooga.

**ENGINEERS.**

Landscape Engineer, NATHAN G. BARRETT.  
 Resident Engineer, W. J. KELLY.  
 Sewerage and Electrical Engineers, NIER, HARTFORD & MITCHELL.

Hon. SAM'L H. BUCK, Gen. Superintendent.

**OFFICES.**

Richardson Building, Chattanooga.  
 Union Trust Building, 80 Broadway, New York.  
 Company's Building, Kimball, Tenn.

**Kimball Offers**

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

**Auxiliary Companies**

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

**A Mammoth Industrial Building**

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

**No Further Auction Sales**

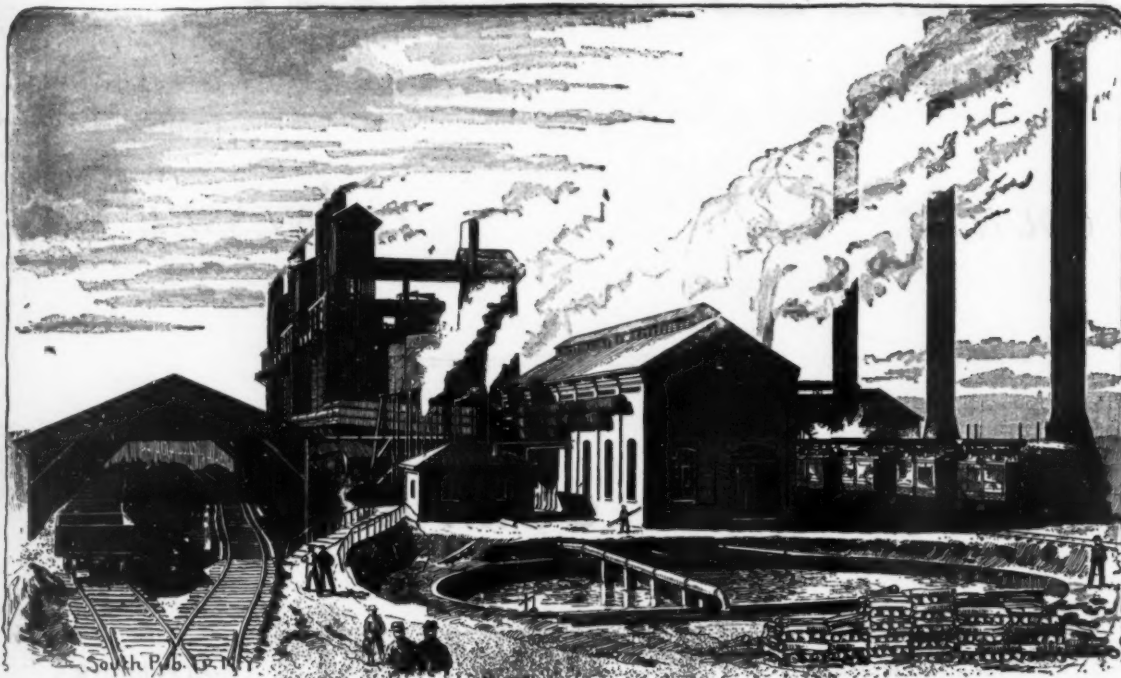
this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

**H. I. KIMBALL, Managing Director,**
**CHATTANOOGA, TENN.**

# SHEFFIELD, ALA.

## THE SUPERB.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

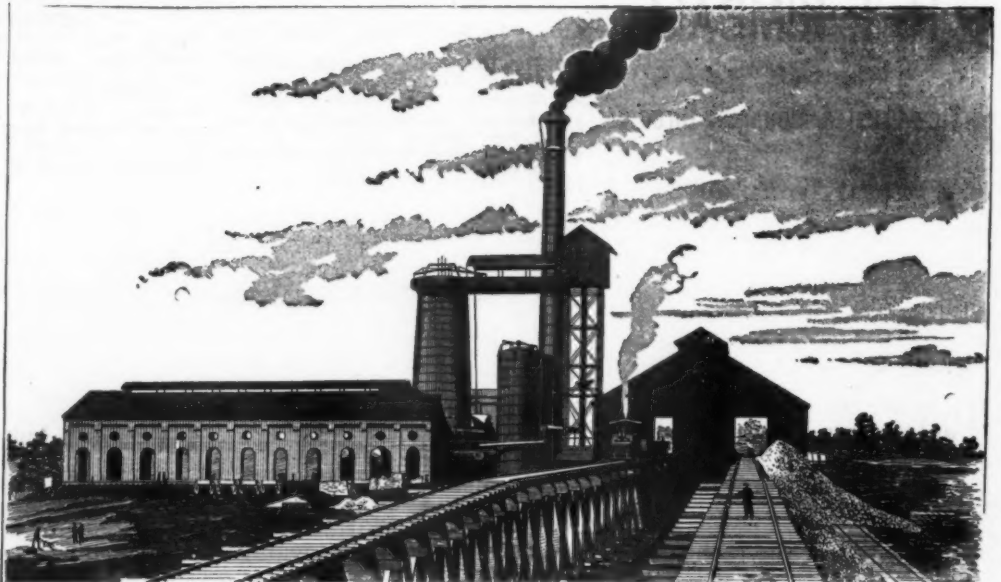
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.  
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.  
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.  
 The Hattie Ensley Furnace, capital \$200,000.  
 The Lady Ensley Furnace Co., capital \$200,000.  
 The Electric Light & Gas Fuel Works, \$50,000.  
 The Sheffield Ice Co., capital \$25,000.  
 The Sheffield Manufacturing & Constructing Co., \$30,000.  
 The Sheffield Contracting Co., \$50,000.  
 The Eureka Brick & Lumber Co., \$30,000.  
 The Howard Brick Co.  
 The Sheffield Bakery & Bottling Works.  
 The Sheffield Mineral Paint Co., capital \$50,000.  
 The Sheffield Agricultural Works, capital \$40,000.  
 The Sheffield Cotton Compress Co., \$50,000.  
 Millan Brothers, Steam Laundry.  
 Enterprise Publishing Co.  
 Water Works, already expended, \$30,000.  
 Sheffield Street Railway Co., capital \$100,000.  
 Cleveland Hotel Co., capital \$50,000.  
 Sheffield Hotel Co., capital \$120,000.  
 Bank of Commerce, capital \$150,000.  
 East Sheffield Land Co., capital \$500,000.  
 Hull & Keller's Fern Quarries.  
 Mobile Real Estate Co., capital \$50,000.  
 Sheffield Real Estate Co., capital \$50,000.  
 Sheffield & Mobile Improvement Co., capital \$100,000.  
 Sheffield Stove Works.  
 Henderson Milling Co., capital \$100,000.  
 Globe Iron & Brass Works, capital \$10,000.  
 Standard Machine Shop & Foundry, capital \$50,000.  
 Owen Pink Mixture Co., capital \$100,000.  
 Bell Telephone & Telegraph Co.  
 Foulds' Shoe Factory, capital \$20,000.  
 Enterprise Wood Working Co., capital \$30,000.  
 Buchanan Straw Goods Factory, \$25,000.  
 The Sheffield Harness & Saddlery Co., capital \$20,000.  
 Principal Shops of the Sheffield & Birmingham Railroad.  
 Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

## ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Fogey" element here.

### Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

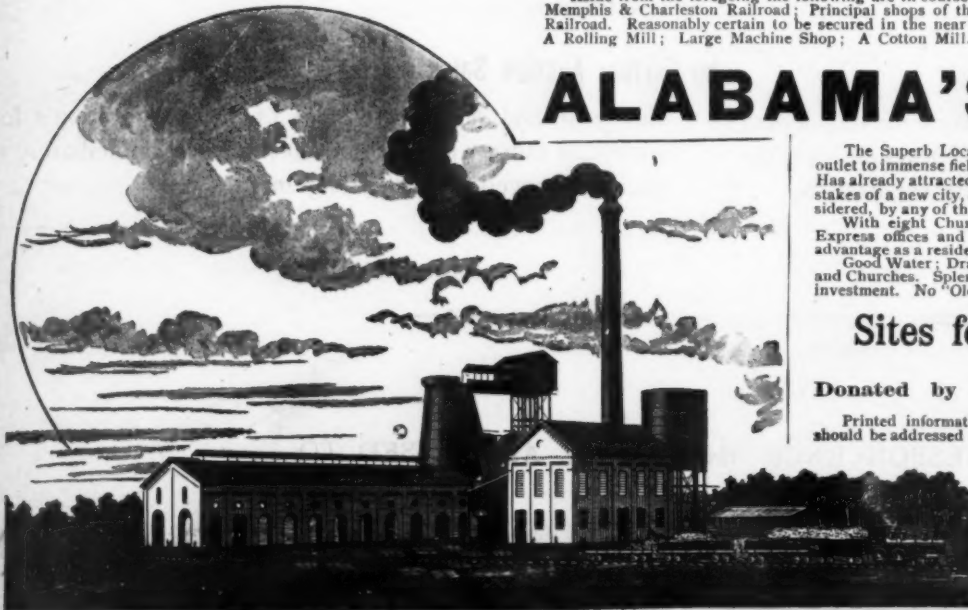
Printed information furnished on request. Correspondence solicited. Communications should be addressed

**W. L. CHAMBERS,**

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA





# The Staunton Development Co.

## OF STAUNTON, VIRGINIA.

Authorized Capital \$2,000,000.

Shares \$100 par value each.

### OFFICERS

M. ERSKINE MILLER, President, Staunton, Va.

S. M. YOST, Vice-President, Staunton, Va.

W. P. TAMS, Treasurer, Staunton, Va.

W. J. PERRY, Secretary, Staunton, Va.

### DIRECTORS.

ISAAC WITZ, Staunton, Va.

B. F. EAKLE, Staunton, Va.

JOHN McQUAIDE, Staunton, Va.

ANDREW BOWLING, Staunton, Va.

S. M. YOST, Staunton, Va.

JED HOTCHKISS, Staunton, Va.

J. H. WAYT, Staunton, Va.

M. ERSKINE MILLER, Staunton, Va.

O. K. LAPHAM, Chicago, Ill.

H. H. FAY, Capitalist, 28 State Street,  
Boston, Mass.

W. L. FLEMING, Richmond, Va.

GEORGE H. HULL, President American  
Pig Iron Storage Warrant Company, 44  
Wall Street, New York.

# STAUNTON, VIRGINIA.

The Queen City of the Valley of Virginia.  
Present Population 12,000.

Situated in Augusta county at the crossing of the Baltimore & Ohio and Chesapeake & Ohio railroads and accessible to the great coal and coke fields, namely: Connellsville, by the Baltimore & Ohio; Pocahontas or Flat Top by the Norfolk & Western and Chesapeake & Ohio, and New River Coke Fields by the Chesapeake & Ohio.

### PROPERTY.

The lands acquired, aggregating 2,242 acres, more or less, are favorably situated within the city limits and adjoining the corporation lines, and it might be fairly said that about 240 acres are situated within the city of Staunton. The great bulk of the property lies between the Valley Railroad or Baltimore & Ohio Railroad and the Chesapeake & Ohio Railway, and is most admirably situated for railroad switches and side tracks to reach manufacturing enterprises. Several streams of good water run through the lands, affording abundant water supply for factories and fine drainage.

### CAPITAL STOCK.

The authorized capital is two million dollars. One million, two hundred thousand dollars of stock will now be issued,

of which \$204,800 has been disposed of, leaving \$800,000 of stock in the treasury, to be hereafter issued, if it should be deemed wise to do so.

Subscribers will bear in mind that with every two shares of stock they will be entitled to either a business or residence lot, to be determined by a drawing at a date to be hereafter designated.

### BOOKS OF SUBSCRIPTION NOW OPEN.

Staunton is within six hours' ride from Washington, seven of Baltimore, nine of Philadelphia and eleven of New York.

It has an excellent system of water works, paid fire department, electric light and gas companies, ice factory, street car line under construction, four newspapers, handsome opera house, commercial college and other important industries that contribute to the welfare of the city.

# GLASGOW, —————→ ←————— VIRGINIA.

The Grandest Enterprise of the New South.

## THE LOCATION

is naturally fine and adapted to the construction of a large city.

## THE CLIMATE

guarantees immunity against epidemics.

## WATER-POWER

is practically unlimited.

## IRON ORE

in abundance and of fine quality.

## LIMESTONE

near at hand and plentiful.

## CEMENT

extensive deposits of good quality.

## GLASS SANDS

in large quantities and of high grade.

## TIMBER

of various kinds and abundant.

## FUEL SUPPLY

Pocahontas and New River Coke in convenient proximity.

## TRANSPORTATION FACILITIES

Two trunk lines—Norfolk & Western, with its Shenandoah Valley Railroad connection, and the Chesapeake & Ohio—giving direct communication with fields of finest Coaking and Steam Coals in the country, with deep water transportation with Norfolk & Newport News, with the West via Cincinnati.

## THE PITTSBURG & VIRGINIA R. R.

to be built in the near future will go through the Blue Ridge mountains at this point.

## FACILITIES FOR MANUFACTURING

unexcelled by those offered by any locality in the South.

## ADDRESS

# ROCKBRIDGE COMPANY,

Ex-Gov. FITZHUGH LEE,

Hon. WM. A. ANDERSON,

M. M. MARTIN,

President

Vice-President.

General Manager,



# DENISON, TEXAS.

The "QUEEN" City of the Southwest,

— AND —

✱ GATEWAY ✱

— TO THE —

## GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

**D**ENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, and a six-mile motor railway; has two electric-light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1889. 200,000 baskets of strawber-

ries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

A cotton mill company with a capital of \$500,000 is building a 25,000-spindle cotton mill.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory has been increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

## THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

### OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

### DIRECTORS:

W. P. RICE,  
J. M. FORD,  
SAM STAR,

Kansas City, Mo.  
Kansas City, Mo.  
Denison, Tex.

B. J. DERBY, Burlington, Vermont.  
ARTHUR L. BERRY, Denison, Tex.  
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.  
B. C. MURRAY, Denison, Texas.  
JOS. B. LINCOLN, Boston, Mass.

# CARDIFF.

## The Cardiff Coal & Iron Company,

**GARDIFF, TENNESSEE.**

Capital, \$5,000,000.

Fifty Thousand Shares—Par \$100.

(CHARTERED BY THE STATE OF TENNESSEE.)

### PRESIDENT.

B. B. SMALLEY, BURLINGTON, VT., President of the Ogdensburg & Lake Champlain Railroad Company.

### VICE-PRESIDENTS.

W. P. RICE, FORT PAYNE, ALA.

HENRY C. YOUNG, CARDIFF, TENN., of Cordley & Co., Bankers, Boston, Mass.

GENERAL MANAGER, - - - M. M. DUNCAN.

### DIRECTORS.

THE PRESIDENT & VICE-PRESIDENTS, Ex Officio.

JOSHUA L. CHAMBERLAIN, NEW YORK CITY, N. Y., Ex-Governor of Maine and President of Bowdoin College; Ex-President of the Association of the Army of the Potomac.

WILLIAM WARNER, KANSAS CITY, MO., of Warner, Dean & Hagerman, Counsellors-at-Law; Ex-Member of Congress from Missouri, and Commander-in-Chief of the Grand Army of the Republic.

SAMUEL E. PINGREE, HARTFORD, VT., Ex-Governor of Vermont; Chairman of the Board of Railroad Commissioners of Vermont.

CHARLES L. JAMES, BOSTON, MASS., of James & Abbot, Lumber.

T. G. MONTAGUE, CHATTANOOGA, TENN., President of the First National Bank of Chattanooga; Director of the Roane Iron Co.

ROBERT PRITCHARD, CHATTANOOGA, TENN., of Pritchard, Sizer & Thomas, Counsellors-at-Law.

J. F. TARWATER, ROCKWOOD, TENN., of Tarwater & Brown, Iron Miners.

J. M. FORD, KANSAS CITY, MO., President of the Fort Payne, Ala., Furnace Co., and of the First National Bank of Denison, Texas.

CARLOS HEARD, BIDDEFORD, ME., Merchant.

JOHN M. WHIPPLE, CLAREMONT, N. H.

### FISCAL AGENTS IN THE NORTH.

CORDLEY & CO., BANKERS, 121 Devonshire Street, Boston, Mass.

### BANKERS IN THE SOUTH.

FIRST NATIONAL BANK OF CHATTANOOGA, TENN.

### TRANSFER AGENTS.

AMERICAN LOAN & TRUST COMPANY, BOSTON, MASS.

THE CARDIFF COAL & IRON COMPANY, at a public sale held April 22d to 24th sold over one million dollars' worth of business and residence property to investors, who will build on and improve the same at once. The prices were conservative and maintained within the limits of actual value. The proceeds of this sale, together with the sum to be contributed by the Cardiff Coal & Iron Company from the sale of its treasury stock, gives the management two million dollars, all of which will be expended in building up the town. The place does not exist that can approximate the inducements that this city now offers to every class of industry and manufacture.

**SITUATED IN A HEALTHY CLIMATE,**

**SUPPLIED WITH PURE WATER,**

**EXCELLENT TRANSPORTATION FACILITIES,**

**In the Heart of the Great Iron and Coal Belt of Tennessee,**

Surrounded by a rich agricultural community, with every class of business sustained by the demands of the country, Cardiff will furnish to the Manufacturer, the Merchant, the Banker, the Professional Man, the Farmer, the Miner, the Laborer all that reason demands.

**Financial Encouragement will be Given Every Class of Business.**

The Cardiff town site contains over 3,000 acres. The building of Cardiff is in charge of men of approved judgment and experience. The town will be developed by the erection of Iron Furnaces, Coke Ovens, Hotel, Water Works, Motor Line, Electric Lights, Manufacturing Plants, Public Buildings.



# BUENA VISTA, VA.

The Growing Manufacturing City  
of the Valley.

FREE SITES FOR INDUSTRIAL ENTERPRISES.

THREE GREAT RAILWAY SYSTEMS

*The Baltimore & Ohio, Chesapeake & Ohio and Shenandoah Valley connect it with the principal markets of the country.*

## ITS ADVANTAGES ARE:

An unsurpassed climate; splendid water-power; a fine system of freestone water, which is conducted through the town in water mains, and its picturesque scenery.

### UNLIMITED QUANTITIES OF SUPERIOR IRON ORES AT ITS DOORS.

With these advantages it commends itself at once to the consideration of those desiring to locate industrial enterprises where raw material is at hand and plants can be economically operated and a ready market in easy communication for its products.

### ITS RECORD FOR ONE YEAR.

Four hundred resident and business houses; a fine system of water mains and sewers; electric light; two banks; two churches, two schools, one public, the other a female seminary, and a population of 2,050 souls.

## INDUSTRIES SECURED.

Iron Furnace—almost completed.....	\$300,000
Pulp and Paper Mills—completed.....	85,000
Saddle and Harness Factory—in operation.....	10,000
Fire Brick Works—in course of construction.....	100,000
Steam Tannery—in operation.....	
Planing Mills and Lumber Yard—in operation.....	20,000
Furniture and Chair Factory—completed.....	20,000
Red Brick Works—in operation.....	30,000
Wise Wagon Works—in operation.....	25,000
Wire Fence Factory—in operation.....	10,000
Woolen Mills—in course of construction.....	70,000
Electric Light Plant—in operation.....	10,000
First National Bank of Buena Vista—in operation.....	50,000
Buena Vista Building & Investment Company, Bankers—in operation.....	81,800
Buena Vista Building & Improvement Company—in operation.....	80,000
Buena Vista Advocate and Job Printing Office—in operation.....	5,000
Egg Crate Factory—organized.....	50,000
Lexington Investment Company—in operation.....	50,000
Virginia Real Estate Investment Company—in operation.....	100,000
Basic Steel Works—organized and ready for construction.....	300,000
Three Livery Stables—all in operation.....	10,000
Engine and Boiler Plant—organized.....	300,000
Power Distributing Plant—being organized.....	40,000
	<b>\$1,795,800</b>

# GRAND AUCTION SALE OF LOTS

AT

## MARION, N. C.

THE MAGNETIC CITY OF THE MOUNTAINS.

Wednesday, Thursday and Friday,  
August 27, 28, 29, 1890.

The Largest Auction Sale of Lots ever held in the South.  
People will attend from all parts of the Union.

*CHEAP EXCURSION RATES ON ALL RAILROADS.*

Five Large Land Companies already Organized  
AND INCORPORATED TO PROMOTE THE INTERESTS OF MARION.

Choice Business and Residence Lots

WILL BE SOLD WITHOUT RESERVE.

Present Population 1,500 People.

Altitude 1,800 Feet.



Heretofore this, the Richest Country in Natural Resources on Earth, has had no Transportation Facilities, and has been inaccessible.

---

Marion Soon will be the Only Point

IN

The Richest Iron Country in the World.

The Greatest Timber Country on Earth.

The Most Wonderful Marble Country in America.

The Finest Manganese Country known.

The Greatest Mica Producing Country on Earth.

The Richest Gold Mining Country east of the Mississippi River.

The Finest Talc Producing Country in the Union.

The Best Fruit and Stock Raising Country known.

The Best Farming Country in the World.

The Finest Climate on Earth.

The Finest Mountain Scenery in America.

That will have Cross and Competitive Railroads.

PLANT YOUR MONEY WHERE IT WILL GROW,

IN THE

Magnetic City of the Mountains.

FOR PARTICULARS ADDRESS

Old North State Land Company,

MARION, N. C.

Co'. C. V. WALKER of Augusta, Ga., Auctioneer for the South.

Capt. JACK STEWART, of Kentucky, Auctioneer for the North.



### Buy the Best Stock on Sale in Virginia.

#### The Grottoes Company

owns **25,000** acres of the best **Iron** and **Timber** lands, and **5,000** acres of unsurpassed **City Site** lands, or 30,000 acres all in one body, including the famous Weyer and Fountain Caves, the noted Grottoes Hotel, a large Electric-Light Plant, two good Water Powers, twenty-five Brick and Frame Houses, a thousand acres of native forests in parks, etc., etc. It now offers **15,000 Shares** of its stock (par value \$100 at \$50 per share). The buyer of 5 shares of stock will be allotted a good city lot, not less than 25x120 feet in size, without charge; and the buyer of 25 shares of stock will be allotted 5 city lots and one villa lot without charge.

Go and see the property, where the **City of Shendun** is now being laid out, at The Grottoes, Shenandoah Valley Railroad, Augusta and Rockingham counties, Va., and you will agree that *nothing yet offered compares with it in intrinsic value.*

For prospectus, maps and information, address The Grottoes Company, Staunton, Va., or The Grottoes, Va.

**Jed. Hotchkiss, President,**  
**Staunton, Va.**



# MIDDLESBOROUGH,

## KENTUCKY.

### There Are Now Under Contract:

A Basic Steel and Iron Plant, daily capacity 300 tons, to cost \$1,000,000 and to employ about 1,000 hands.  
 An Iron Rod Mill; A Sheet Mill; A Nail Mill.  
 Two Coke Iron Furnaces, 150 tons daily capacity each, and one Charcoal Furnace.  
 A \$500,000 Tannery—the largest in the world  
 Fourteen Coal Mining Enterprises, to employ about \$2,000,000 capital.  
 A Dozen Wood-Working Enterprises.  
 A Twelve-Mile Belt Railroad.  
 Tile Works, Fire and Building Brick Works, and a dozen or more other enterprises.

## \$18,500,000

### Already Invested in the Development of Middlesborough.

Since the above announcement was made, Mr. A. A. Arthur, the manager of the company, has returned from London, where he secured an additional **\$8,000,000** to be invested in Middlesborough enterprises.

The capital of the Water Works Company has been increased from \$200,000 to \$750,000.

The capital of the Electric Street Railway Company has been enlarged to \$250,000 and the proposed lines extended so as to cover all the principal streets.

The length of the Belt Railroad has been increased to 20 miles, and the whole line will be in operation in a few weeks.

The money has also been secured for an extension of the Knoxville, Cumberland Gap & Louisville Railroad through the tunnel into Middlesborough. There is now under negotiation a lease of railway systems, of which the Knoxville, Cumberland Gap & Louisville road will form a link, giving Middlesborough trunk line connection with Chicago, Cincinnati, Louisville, Atlanta, Charleston, Savannah and Pensacola. Arrangements are also being made for direct connection between Cumberland Gap and some point on the Atlantic coast, and following this will be the establishment of a line of steamers between that point and Liverpool.

\$400,000 has been secured for the Middlesborough Coal and Iron Bank, which is now a regular department of the American Association's business.

The entire capital of the Cumberland Gap Park Company, \$1,800,000, has been secured in London. Contracts

have been let for the magnificent hotel, casino, sanitarium and other buildings.

The Middlesborough Hotel Company's capital has been increased. The company is now making an addition to its present building at a cost of \$25,000. Contract has been let for new hotel with ball room, casino and all the attractions and appointments of a first-class house, to cost \$75,000.

Contract has just been made for a new office building for the American Association, to be of stone and to cost \$35,000. A new office building will also be put up for the Middlesborough Town Company, the material to be stone and brick.

The Ousiotto Building Company, with a capital of \$250,000; the Manchester Building Company \$200,000; the St. Helen's Building Company \$200,000, and the New South Building and Loan Company with \$100,000, have been organized.

The eminent engineer, Mr. George E. Waring, Jr., of Newport, R. I., has been given the superintendency of contracts for a system of sewerage for Middlesborough and for the continuation of the work of straightening the stream that flows through Middlesborough. These improvements will cost \$150,000.

Mr. Arthur completed plans for a residence town at Cumberland Gap in connection with the American Association's developments. The amount secured for this purpose was \$750,000. The laying out of these lands has been given to Mr. George E. Waring, Jr.

The Watts London Iron and Steel Syndicate will increase its capital to £1,500,000 (\$7,500,000) and build other industries in addition to those already announced. Of the two furnaces now building the first will blow in early next October, and the second in November. Two other furnaces will be let to contract January 1.

Parties from Manchester, London and Liverpool will attend the May auction sales at Middlesborough, and will come with \$500,000 to invest in Middlesborough lots. Other parties are coming to form subsidiary companies to operate at Middlesborough in addition to those enumerated above.

The Northern American Association has been formed with a capital of \$3,750,000 to develop 200,000 acres of Kentucky coal lands; also the Anglo-American Association, with capital of \$2,000,000, to develop 80,000 acres of Kentucky coal lands, and the Western American Association, with capital of \$3,000,000, to develop 150,000 acres of coal and iron lands in Tennessee.

Counting the new enterprises arranged for on this trip and the additions to the capital of such as had been already announced, Mr. Arthur has secured nearly \$8,000,000 to be invested at Cumberland Gap. This is **\$8,000,000 of new money to be added to the millions already invested.**

Thus the Amount of Capital now Invested in the Development of Middlesborough reaches

## \$26,500,000.

Besides this, the three coal and iron companies mentioned above, whose aggregate capital is **\$8,750,000**, are closely allied to the American Association and the Middlesborough Town Company, and their developments will be made to contribute to the growth of Middlesborough.

The history of the world does not show an instance of

such amazing development in so short a time, and on so sure and solid and permanent a foundation.

A year ago the population of the present site of Middlesborough did not exceed 50; to-day the town has a population exceeding 5,000. It is a conservative estimate to say that in three years 50,000 people will be living here.

## MIDDLESBOROUGH TOWN CO., Middlesborough, Kv.

# STANDARD LAND CO.

Catlettsburg, Ky., U. S. A.

Dealers and Brokers in Mineral and Timber Lands.

WE OFFER FOR SALE THE FOLLOWING DESIRABLE PROPERTIES, RICH IN IRON ORES, CANNEL, BITUMINOUS AND NATURAL SMELTING COALS, LIMESTONES, FIRE-CLAYS AND OTHER MINERALS AND TIMBER.

No. 40.—16,000 acres, Laurel county, Ky., from 3 to 9 miles from L. & N. R. R.

No. 41.—35,656 acres, Jackson county, Ky., on Rockcastle river, 3 1/4 miles above Livingstone, a station on L. & N. and Kentucky Central Railroads.

No. 43.—46,000 acres, Powell county, Ky., K. U. R. R. through this tract for 11 miles.

Nos. 45 and 46.—Aggregating 1,202 acres, Boyd county, Ky., 1/2 mile from C. & O., N. N. & M. V. and O. & B. S. Railroads and Ohio river.

No. 47.—13,561 acres, Jackson and Lee counties, Ky., 10 miles from Louisville Southern R. R.

No. 50.—63,070 acres, Morgan county, Ky. Three recent surveys of different railroads have been made through this land.

1,593 Acres Cannel Coal Rights in Johnson county, Ky. Lands border on Big Sandy river, O. & B. S. R. R. runs within 200 yards of some of it, and "Three Cs R. R." will pass through most of it.

No. 60.—5,000 acres, Logan county, W. Va., on Tug Fork Big Sandy river. N. & W. R. R. now being constructed through this tract.

No. 61.—6,000 acres, Clay county, W. Va.

No. 62.—5,434 acres, Braxton county, W. Va.

Nos. 78 and 79.—Aggregating 19,750 acres, Botetourt county, Va., on opposite side Craig's creek, and bordering on same from New Castle, and the Craig's Creek Mineral R. R., now being constructed.

No. 80.—10,250 acres, Botetourt county, Va., adjoining tract 78.

No. 100.—45,144 acres, Fentress and Scott counties, Tenn., about 5 miles from Cincinnati Southern R. R.

No. 101.—30,000 acres, Cumberland county, Tenn., between towns of Rockwood and Crossville, Crab Orchard mountain, 5 to 10 miles from C. S. R. R.

No. 125.—100,000 acres PINE land, in Holmes, Washington and Calhoun counties, Florida. Two railroad surveys and Coctawhatchee river runs through tract.

Also other properties, including Coal Mines in operation, Mineral Paint Lands, Flour Mills, etc.

Write for plats, topographical charts, civil and mining experts report and full printed descriptions of property.

# REAL ESTATE

FOR

## Investment or Speculation.

One of the Most Solid and Substantial of all the Southern Towns is

## BRISTOL, TENN.

It is in the center of the richest mineral, timber and agricultural sections of the South—East Tennessee and Southwest Virginia.

It is becoming an important railroad center.

It has now a population of 10,000, which is increasing every day.

It has in the HOTEL FAIRMOUNT one of the handsomest and most thoroughly equipped hotels in the South.

It has in operation car shops, planing mills, foundries, woolen factory, cotton factory, carriage factory, veneer factory, canning factory, planing mills, brick-yards, &c. An iron furnace to cost \$300,000 has been contracted for.

The climate of Bristol makes it a natural sanitarium the year round.

There is no better place in the South for profitable real estate operations.

Some of the best business, residence and suburban property in the town is controlled by

**W. A. R. ROBERTSON,**

**Real Estate Agent.**

Write to him for details. He is giving particular attention now to two or three special things that will pay big profits on short turn.

# BEDFORD CITY, VA.

(FORMERLY LIBERTY.)

The Most Beautiful Residence Portion of this Growing City is

## LONGWOOD PARK,

The Property of the Longwood Land & Improvement Co.

The property is within five minutes' walk of the N. & W. R. R. depot. It is intersected by broad, oak-shaded avenues, and divided into building lots averaging ninety feet front by 230 feet deep. A superb view of the beautiful Peaks of Otte visible from every part of the property. Prices range from \$6 to \$12 per front foot, according to location, &c.

No Better Investment can be made than in Lots in Longwood Park, at these Prices.

THE CITY HAS AN ESTABLISHED SOCIETY.

Churches, Schools and Academies, (among them the finest in the South,) Manufactures of many kinds, a magnificent supply of Free-stone Water, systems of Arc and Incandescent Electric Lighting, admirable Railroad Connections, a surrounding country of unlimited Mineral Resources and Great Fertility. For further information apply to

**R. KENNA CAMPBELL, Gen. Manager**

**The Longwood Land & Improvement Company.**



# The Gem of the Mountains

## TACOMA,

Wise County, Virginia.

Situated Directly in the Center of the Beautiful Guests River Valley on the Line of the Clinch Valley Extension of the Norfolk & Western Railroad, midway between St. Paul on the East and Big Stone Gap on the West.

Four large veins of coal at its doors including the famous Imboden vein of superior coking coal eight feet thick.

3,000,000 brick contracted for.

Works being constructed. Streets being graded.

470 lots already sold.

The gateway to the growing Southwest.

A substantial and enduring city to be reared.

A number of industries secured. Manufacturing sites free.

**W. E. HARRIS, President,**

Big Stone Gap, Va.

**HARRIS & HARRIS, Special Agents,**

Tacoma, Va.

## BIG STONE GAP, VA.

"Nature has done for Big Stone Gap what Art, Aided by Millions, can do for no other City."

**EIGHT LAND, COAL, IRON and DEVELOPMENT COMPANIES,** whose capital aggregates millions of dollars, are aiding the railroads to develop this wonderfully rich Mineral, Coal and Timber Region, and to build here

## A MIGHTY CITY.

### LOCATION.

High, healthful, beautiful. Drainage perfect. Confluence of two swift-falling rivers.

### NATURAL ADVANTAGES.

The point in all the world where inexhaustible **COKE, IRON ORE, LIME-STONE** and **WATER**, of best quality, are closest together and easiest got, and where consequently Iron and Steel can be most cheaply made.

### TRANSPORTATION FACILITIES.

A natural pass-way at water-level in a great chain of mountains, it is of necessity the focal point for Railroads connecting the West with the seaboard, and the markets of the Northwest with the rich coal and iron fields of the Southeast. **FOUR RAILROADS**, one completed and three to be completed during the year. **FIVE MORE RAILROADS** being constructed, with Big Stone Gap as the ultimate terminus.

### DIVERSITY OF INDUSTRIES.

Easily secured. The **HEART** of the finest **COAL, IRON** and **TIMBER BELT** on the Continent. Marble, Building Stone, Building Brick, Fire Brick, Lime, Mineral Paints, Tanneries, Potteries, etc., etc.

### There are in Course of Construction at Big Stone Gap

Two one hundred-ton Iron Furnaces.  
An Electric Light and Power Plant by the Thomson-Houston Co., equal to any in the South.  
A Hotel second only to the Ponce De Leon.  
A Street Railway three miles long operated by steam.  
A Belt Line for manufacturing enterprises six miles long to be extended to eighteen.  
Two complete Lumber and Finishing plants.  
A complete all the year round Brick Plant  
A complete Telephone Exchange.  
A complete Steam Laundry.  
A Furniture Factory.  
A Terra Cotta and Sewer Pipe Company.  
A Union Depot which will equal any in the South.  
A Coke Plant modeled after the celebrated Connellsville plant building by the Virginia Coal & Iron Co., of which E. B. Leisenring (late president of the Connellsville Coal & Iron Co.) is president.  
This company will build coke ovens to meet any demand which may be made upon them.

**GRAND OPPORTUNITIES OFFERED** to Investors, Capitalists, Manufacturers, Mechanics, Laborers, Pleasure Seekers and Home Seekers.

**FOR INFORMATION IN DETAIL ADDRESS**

**BIG STONE GAP IMPROVEMENT CO. or Real Estate Exchange.**

# DENISON,

TEXAS.

THE  
Future Manufacturing and Commercial Center  
OF THE  
GREAT SOUTHWEST.

## DENISON SUPPLIES THE COAL FOR TEXAS.

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and Southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there to be worked.

**DENISON** cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

**DENISON** has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

**MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.**

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

**MUNSON & BRO.**

301 WOODWARD STREET,

DENISON TEXAS.

# Six Trunk Line Railroads at BESSEMER

✻ In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock. ✻

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago, and every day brings forth new evidence to prove the correctness of his prediction and to show that without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and in every other advantage that could be asked nature seems to have done her best for this favored land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply, including nearly every variety of hardwoods for woodworking purposes.

Seven Furnaces, output 1890, 250,000 tons; Rolling Mill, 100 tons daily; Fire Brick Works, 25,000 daily; Many Lesser Industries

Offers Thirty Varieties of Hardwoods for Woodworking Industries.

11,000 City Lots For Sale.

The Bessemer Land & Improvement Co.

this new year, are prepared to deal liberally for the founding of Iron and Woodworking industries in this growing Mining and Manufacturing Center.

H. F. DeBARDELEBEN, Prest.

H. M. McNUTT, Secretary.

WHERE  
MONEY  
WILL  
GROW!

## THE PLACE FOR FACTORIES.

# THE ROANE IRON CO.

WILL BUILD UP A

✻ LARGE MANUFACTURING CITY ✻

AT

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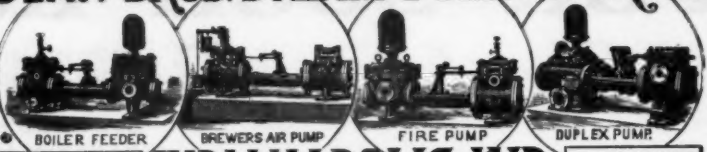
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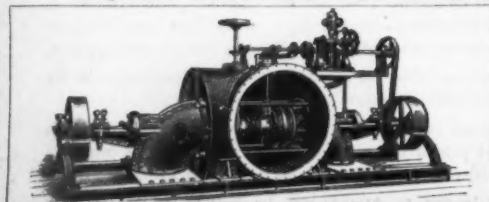
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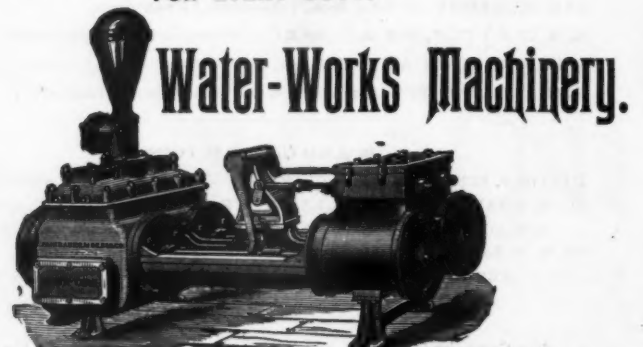
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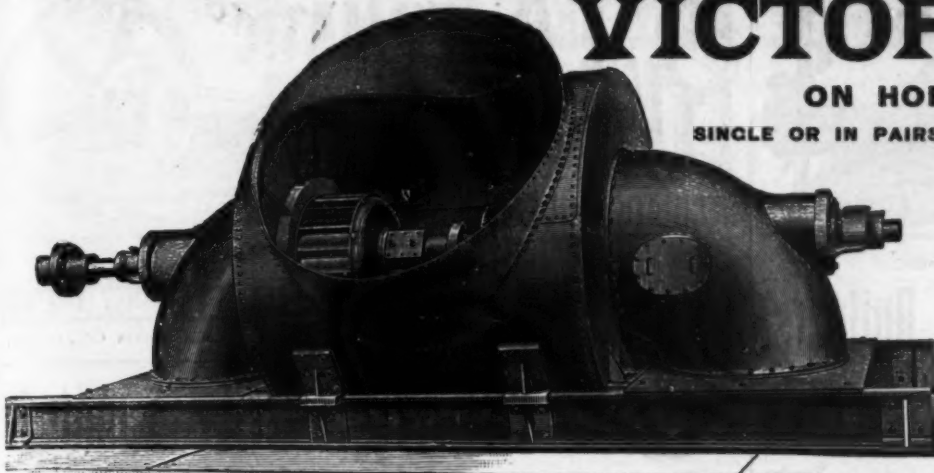


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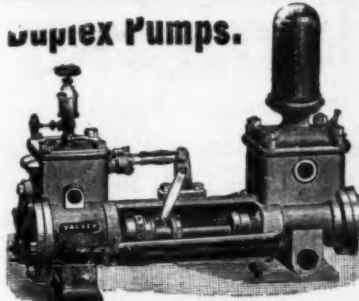
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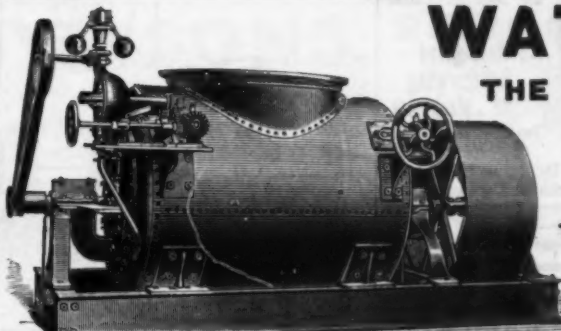
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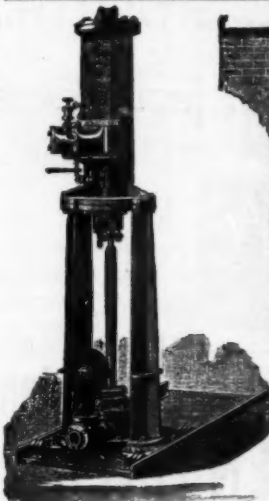
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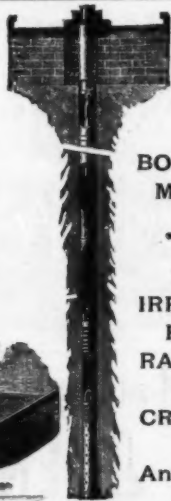
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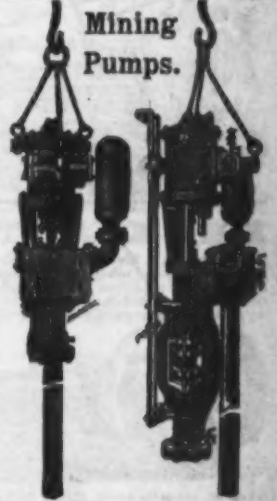
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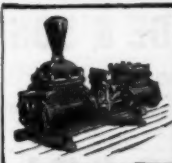
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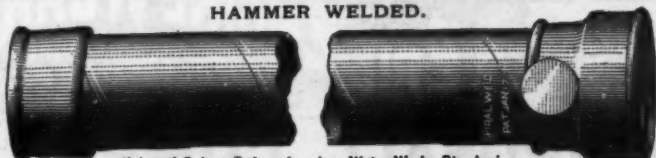
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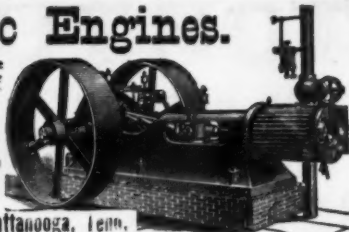
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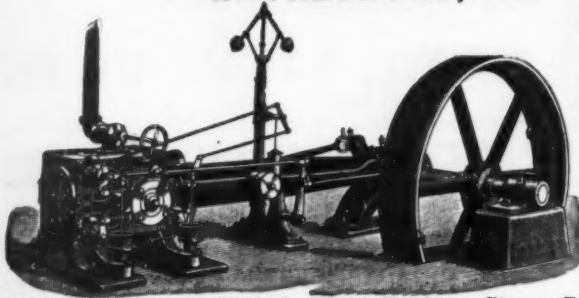
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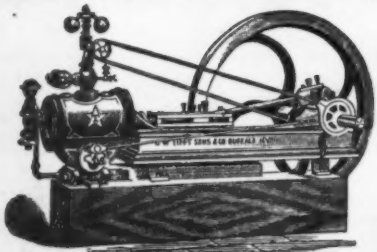
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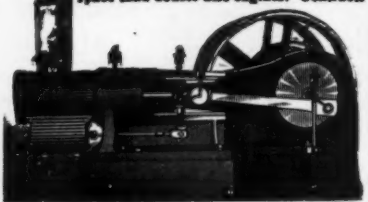
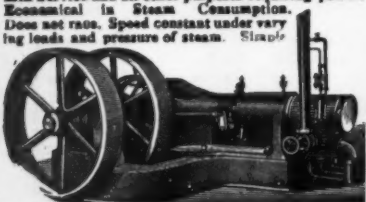
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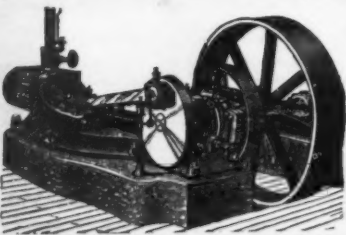
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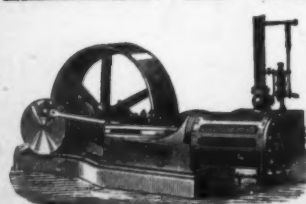
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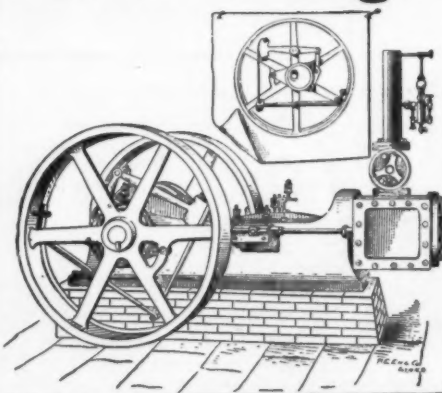
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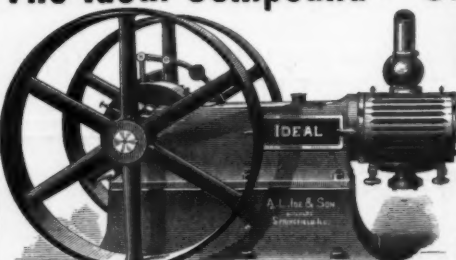
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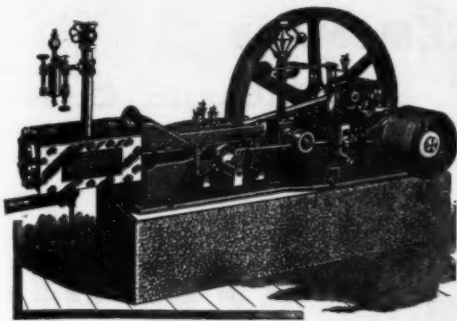


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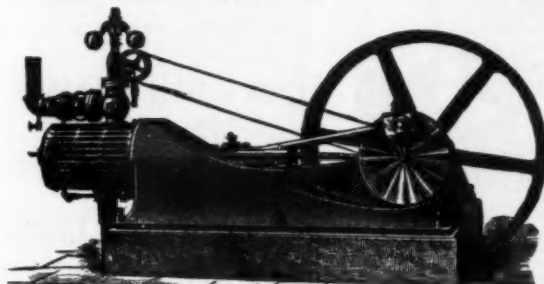
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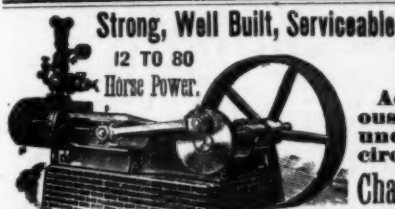
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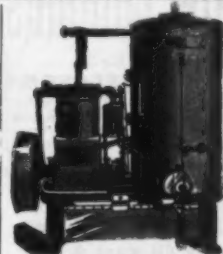
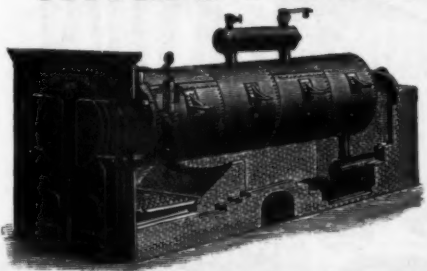
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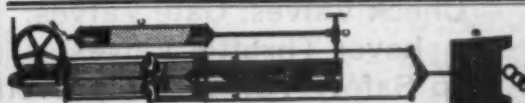
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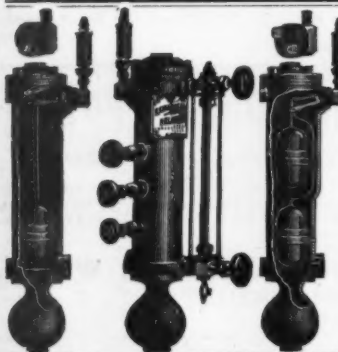
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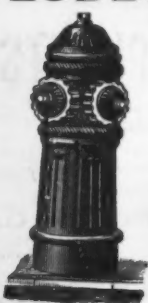
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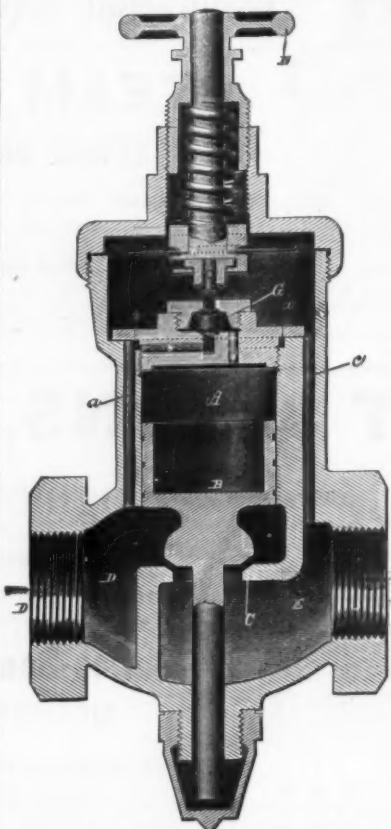
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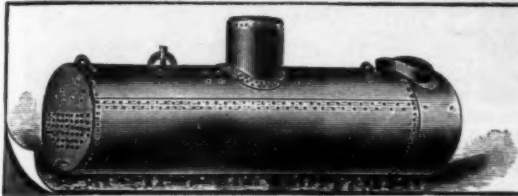
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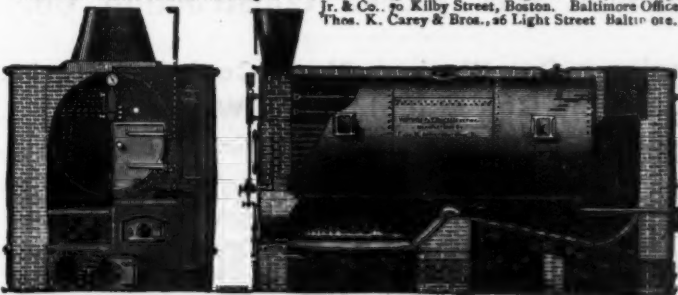
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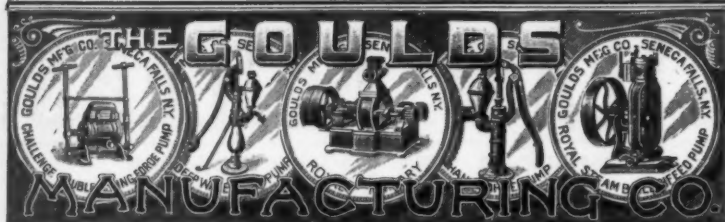
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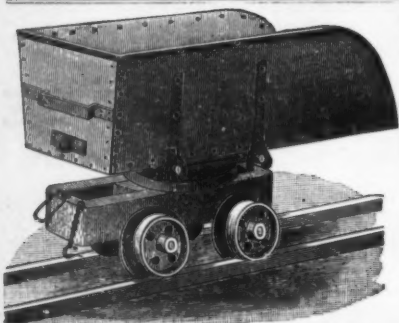
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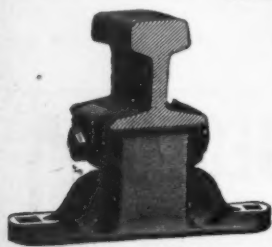
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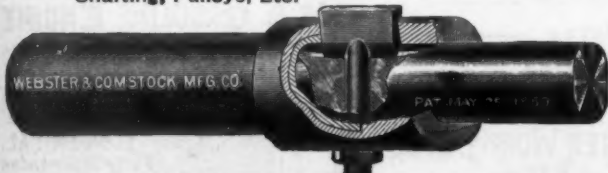
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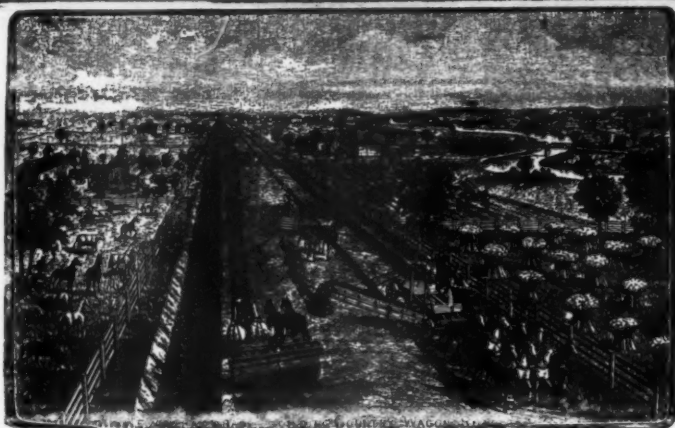


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# Southern Railroads.

## The Carolina, Knoxville & Western Railroad.

The readers of the MANUFACTURERS' RECORD will remember an article on the Carolina, Knoxville & Western Railroad which appeared in this column some time ago. At that time it was mentioned that a construction company would probably be organized. At Knoxville a few days ago the railroad company held a stockholders' meeting and the following officers were elected: Wm. Bailey, of St. Louis, president; J. B. Humbert, of South Carolina, vice-president; W. E. Jackson, of Augusta, Ga.; Frank Hammond, H. C. Bailey, J. W. McCullough, H. J. Haynesworth, of Greenville, S. C.; J. P. Phillips, of Ninety-Six, S. C.; W. J. Ready, Jonson, S. C.; C. E. Lucky, M. L. Ross, Samuel McKinney, of Knoxville, Tenn.; Joshua Brown, of New York; Wm. Bailey, of St. Louis, and J. B. Humbert, of South Carolina, directors; A. B. Byrd, of Greenville, S. C., general superintendent, and T. B. Wardlow, of Augusta, Ga., secretary and treasurer. The board of directors accepted the proposition of the newly-organized construction company to build the road from Knoxville to Greenville and to finish the entire road from Knoxville to Augusta. The new construction company has a capital of \$500,000. James U. Jackson, the vice-president of the Augusta & West Florida Railroad Co., is president. President Bailey, of the railroad company, is also president of the Augusta & West Florida. So that this revival may be called an Augusta & West Florida enterprise. The completion of the road is expected by 1892.

Two rumors have been current during the last two weeks concerning the intentions of the Vanderbilts in the railroad world. One is that they are considering the purchase of the Cotton Belt Road when it is sold this fall, and the other that they will probably parallel the Louisville & Nashville from Princeton, Ky., to Clarksville, Tenn. As regards the construction of a road from Princeton to Clarksville, the Louisville & Nashville have given the Ohio Valley Railroad Co. 30 days to reply to an offer made for the sale of the former's road to the latter company, but it is expected that the price is so high as to preclude the possibility of the sale. Thus it is thought that the Ohio Valley people will build a competing line. The Ohio Valley Railroad runs from Henderson to Princeton, Ky., and it is expected that the Vanderbilts, should they reach Clarksville, will find it comparatively easy to get to Nashville. Though the Vanderbilt people own the Chesapeake & Ohio and Ohio Valley roads, they have not to any extent proved an element in Southern movements. If, however, either of these rumors prove true, it marks the entrance into the railway arena of the South of perhaps the most powerful agency in Northern railroad circles.

A SUIT which will probably decide the legality of the car service bureau has been filed in chancery at Louisville, Ky. The name of the bureau is not referred to in the petition, but the effect will be the same. The Kentucky Wagon Manufacturing Co. is the plaintiff, and the Louisville & Nashville Railroad Co. the defendant. The plaintiff states that on June 15, 1887, it entered into a contract with the defendant by which the latter was to build a switch, at plaintiff's cost, from its main track to the factory of the plaintiff. Under the agreement the cars should be switched off to the plaintiff and should be taken away when loaded without switching

charges, and at the rate of \$1 per car when cars were received from other lines. The contract was to run for 50 years. Plaintiff states that on account of this contract \$225,000 was invested in an immense plant at South Louisville, where 300 men were employed, and about 75 wagons shipped every day and a large amount of lumber received. Claiming to act according to the rules that govern the Louisville & Nashville and other roads, the plaintiff declares that defendant has sent a bill of \$53 for car service in addition to charges agreed upon in contract, and now declines to switch any more cars until the amount is paid. This is a very important case, as the decision will determine the rights and powers of the car service bureau.

A DISPATCH from New York says: "Arrangements have been perfected by which the Louisville, New Orleans & Texas, extending from Memphis to New Orleans, and the Newport News & Mississippi Valley, from Huntington, W. Va., to Lexington, Ky., and from Louisville to Memphis, will be operated under one and the same management. The transportation of both lines will be under the charge of Col. J. T. Harahan, at present general manager of the first-named road. E. W. How, general freight and passenger agent of the Louisville, New Orleans & Texas, will be promoted to traffic manager of both lines, and P. R. Rogers, who is now assistant general passenger agent of the Louisville, New Orleans & Texas, will be appointed general passenger agent under the new arrangement. It is said that the changes will be officially announced after the middle of this month, and effective a few days later." These roads both belong to the Huntington system, and if the report is true, it is probably only a matter of lessening the expense of operation, and will not make any difference to the patrons of the lines.

THE Alabama Midland, which recently passed into the hands of the Plant system, has elected the following officers: H. S. Haines, general manager; C. D. Owens, traffic manager; J. M. Lee, treasurer; B. Dunbar, general superintendent; W. J. Haylow, general superintendent of transportation, and J. T. Andrews, cashier. General Manager Haines also holds the same office in the Savannah, Florida & Western.

A TEST of the Strong locomotive was made a few days ago on the Cincinnati Southern Railroad. The speed averaged the rate of 75 miles per hour. The construction of this new locomotive is quite curious. Each engine has a double set of boilers, requiring two engineers and two firemen. The length of the engine is nearly 80 feet, and appears about double the size of an ordinary locomotive. The capacity of the water tank is 5,000 gallons.

ALL reports concerning the lease or sale of the Atlantic & Danville Railroad to the East Tennessee, Virginia & Georgia seem to be unfounded. Hon. Calvin S. Brice, vice-president of the latter system, wrote to the MANUFACTURERS' RECORD this week that the report was untrue. It is thought to be more than likely that the Atlantic & Danville will build its own extension west to Bristol, Tenn., and remain unallied to any one system.

THE Nashville, Chattanooga & St. Louis Railroad Co. placed last week an order with the Ohio Valley Car Works for 500 box cars of 60,000 pounds capacity.

## Railroad Construction

Bedford City, Va.—Railroad.—Bedford City has voted a subscription of \$30,000 to the Bedford & James River Railroad Co., lately mentioned.

Brewton, Ala.—Railroad.—The town is considering offering inducements to the Mobile & Girard Railroad Co. (office, Girard) to construct its road from Troy, Ala., to Brewton.

Bristol, Tenn.—Railroad.—It is rumored that the Norfolk & Western Railroad Co. (office, Roanoke, Va.) is surveying an extension to Luttrell.

Brownsville, Texas.—Railroad.—The Brownsville, Continental & Northern Railroad Co. has filed its charter for the purpose of constructing a standard gauge railroad to San Antonio, a distance of 300 miles. F. San Roman is president; J. A. Brown, secretary, and G. H. Forney, treasurer.

Burnside, Ky.—Railroad.—Work has been commenced on the Burnside & Cumberland River Railroad.

Charleston, S. C.—Railroad.—It is reported that surveys have been commenced on the Charleston, Kentucky & Western Railroad projected to Cincinnati, O., via Middlesborough, Ky. W. H. Trimble, Mt. Sterling, Ky., can give information.

Clarksville, Tenn.—Dummy Railroad.—P. L. Barber offers, it is reported, to donate \$100,000 to any one who will construct a dummy railroad or other means of rapid transit to Dunbar's cave, 2½ miles distant.

Columbus, Miss.—Railroad.—The Tombigbee Railroad Co., mentioned last week, has, it is stated, let contract for construction of its line to a Chicago (Ill.) firm.

Corpus Christi, Texas.—Railroad.—The Corpus Christi & South America Railroad Co. has filed resolutions authorizing the counties to issue bonds.

Covington, Ky.—Electrical Railroad.—The Cincinnati, Covington & Rosedale Electric Street Railroad Co., mentioned last week, intends constructing an electrical railroad shortly; contracts not yet let. Henry Feltman is president.

Decatur, Ala.—Railroad.—Contracts are said to have been let for the construction of the entire line of the Decatur, Chesapeake & New Orleans Railroad.

Denison, Texas.—Railroad.—John P. Hughes has, it is stated, commenced work on the Sherman, Denison & Dallas Railroad, previously referred to.

Dublin, Texas.—Street Railroad.—A street railway company has been chartered; capital stock \$10,000.

Dunlap, Tenn.—Railroad.—The Dunlap Coal, Iron & Railway Co. and O. J. Sheridan & Co. will, it is stated, organize the Chattanooga, Dunlap & Louisville Railway Co. to construct a railroad from Chattanooga to Louisville, Ky., via Dunlap.

Greenville, S. C.—Railroad.—A construction company has been organized with James U. Jackson, of Augusta, Ga., president; capital \$500,000. The company intends to commence work immediately.

Jacksonville, Fla.—Electrical Railroad.—It is said that an electrical railroad will be constructed to the property of the Jacksonville Driving Park Association. Hon. P. McQuaid or J. P. Tallierro can give information.

Laverne, Ala.—Railroad.—The Montgomery, Pensacola & Mobile Railroad Co. has been incorporated by John C. Woolfolk, Joseph Goetter, W. F. Joseph, H. C. Davidson, W. E. Woolfolk, S. B. Stern and E. B. Joseph, all of Montgomery, for the purpose of constructing a railroad to Pensacola, Fla.; capital stock \$50,000.

Lynchburg, Va.—Railroad.—The Norfolk & Western Railroad Co. (office, Roanoke) is inviting proposals, it is said, for the extension of its line to the Valley Engine Works.

Macon, Ga.—Railroad.—Final contracts are said to have been awarded the Macon & Savannah Construction Co. for the construction of the Macon & Atlantic Railroad, lately referred to. The road is to be completed in 8 months.

Meridian, Miss.—Dummy Railroad.—Beard & Brandon confirm the report that they have contract for constructing the Meridian & Bonita Park Dummy Railroad, lately referred to.

Nashville, Tenn.—Railroad Bridges.—The Nashville, Chattanooga & St. Louis Railroad Co. will, it is reported, construct six iron bridges on its line to replace present structures.

Norfolk, Va.—Railroad.—Surveys are being made, it is said, for the projected Charleston, Wilmington & Norfolk Railroad, lately referred to as projected from Charleston, S. C., to Norfolk via Wilmington, N. C. H. K. Preston can give information.

Oneonta, Ala.—Railroad.—It is rumored that the Louisville & Nashville Railroad Co. (office, Louisville, Ky.) will construct a railroad to Wauhatchie.

Orange Heights, Fla.—Railroad.—The extension of the Western Railway of Florida (office,

Green Cove Springs) to Gainesville is being talked of.

Paducah, Ky.—Railroad.—The Paducah, Tennessee & Alabama Railroad Co., previously reported as to hold a stockholders' meeting for the purpose of considering the issuance of bonds not exceeding \$20,000 per mile, has decided favorably upon issuing the bonds.

Piedmont, Ala.—Railroad.—The Oachita Valley Railroad Co. has been incorporated by John E. Laney and Columbus Dunn, of Laney; F. H. Jackson, of Attalla; J. E. Line, of Chattanooga, Tenn.; W. H. Wilson and J. H. Bill bro, of Gadsden, and C. N. Jelks, of Dukes, for the purpose of constructing a railroad from Piedmont to Laney; capital stock \$100,000.

Richmond, Va.—Electrical Railroad.—Warner Moore and his associates intend constructing an electrical railroad if permission can be secured.

Salem, Va.—Railroad.—It is stated that the Baltimore & Ohio Railroad Co. (office, Baltimore, Md.) will shortly let contracts for the construction of its Valley Extension to Mendota.

San Antonio, Texas.—The South Heights Rapid Transit Street Railway Co. has filed its charter; capital stock \$50,000. W. H. Westfall, of Burnet; L. McGregory, W. W. Porter, of Denver, Colo., are among the directors.

Savannah, Ga.—Electrical Railroad.—The Real Estate Loan & Building Co. will construct an electrical railroad. J. S. Collins can give information.

Starke, Fla.—Railroad.—The Starke & Sampson City Railroad Co. has been incorporated by Comer L. Peck, J. S. Bailey, R. M. Smith, G. E. Pose and N. W. Hackitt for the purpose of constructing a railroad to Sampson City.

Thibodaux, La.—Railroad.—Work will, it is reported, be commenced shortly on the 6-mile branch of the Southern Pacific Railway (office Atlantic Division, Houston, Texas).

Tuskaloosa, Ala.—Railroad.—Otey, Studstill & Co. have secured contract, it is stated, for the construction of the Montgomery, Tuskaloosa & Memphis Railroad from Tuskaloosa to Centreville.

Wheeling, W. Va.—Railroad Bridge.—C. E. Stewart & Co., Lancaster, Pa., has secured, it is stated, contract for constructing a double-track steel bridge for the Baltimore & Ohio Railroad Co. (office, Baltimore, Md.).

## A Timely and Valuable Work.

A long-felt want in commercial literature is filled by "Seeger & Guernsey's Cyclopaedia of the Manufacturers and Products of the United States," a book of over 1,100 pages. Primarily its aim is to publish for the information of buyers and shippers a selected list of the leading manufacturers of the United States, and secondly, a list of the articles they manufacture, and which are produced in this country. In both departments the work has been done in a careful and conservative spirit. The names of manufacturers have been selected for their high standing in the commercial world, and the number of manufacturers of each article has been regulated by the relative importance of the article in the market. In this connection the cyclopaedia will prove invaluable to buyers seeking information concerning particular branches of trade. The finest distinctions are made in the various divisions of manufactures, so that a buyer may easily select those who make specialties of the particular article sought. The list of articles manufactured in the United States is perhaps the most complete ever published, occupying 174 double-column pages and enumerating nearly 13,000 articles. These are divided into forty-five departments, whilst the list for machinery and tools has ten divisions or sub-departments. Among other valuable information contained in this useful book is a comprehensive list of all trade papers published in the United States, which will be of service to advertisers and those desiring information concerning particular localities and industries.

A VERY complete descriptive and illustrated catalogue of valves is issued by Jenkins Bros., 71 John street, New York city. This firm possesses a merited reputation for the manufacture of first-class valves of all descriptions and standard packing. Recently Jenkins Bros. have made a number of improvements in their valves, and will mail their revised list, containing brief description of these, upon application.

### Free Trade Humbuggery.

Senator Gorman made an excellent and forcible speech in favor of a lower duty on iron ores yesterday, but, of course, it was no use. He pleaded that unless the duty on iron ores were lowered several great iron works on the seaboard would have to close. But the Republican Senate, by way of fostering American industry and protecting American labor, kept the high duty on the ores and thus voted to shut up established works. Such is "protection," which kills more than it cures.—N. Y. Herald.

The effort to make the public believe that lower duties are essential to the success of the great steel works near Baltimore, and that without lower duties these works must close, is a piece of political humbuggery. These works were built to use Cuban ores. The managers knew the duty, they knew the cost of their ores delivered, and, knowing everything relating to their enterprise, they decided to spend \$5,000,000 or \$10,000,000 in building these works and in developing their Cuban ore mines. They are extending their plant as rapidly as possible.

### Tredegars Iron Wealth.

It is announced that the site in Calhoun county, Alabama, long known as Jacksonville, will in future be known as Tredegar. The former Jacksonville is a well-established place, with a population of 3,000, with churches of all denominations, excellent schools, a national bank, water works and a fine hotel. No county in the State offers greater advantages than Calhoun. Amazing progress has been made in it, especially in the development of mineral wealth in the last few years, and the new town of Anniston has grown up, which is one of the most important towns of recent origin in the South. Calhoun county is adapted to the needs of all classes of settlers. Its soils are said to be capable of producing every plant that grows in the temperate zone. The valley lands are usually chosen for cotton, while the uplands are generally devoted to the raising of corn, wheat, oats, rye, and Irish and sweet potatoes, which are the staple productions of the country. The Alexandria and Choccolocco valleys are covered with splendid farms which support a thrifty and progressive population. The forests of Calhoun consist of pine (both long and short leaf), red, black, white, post, turkey and Spanish oaks, hickory, walnut, beech, poplar, elm, ash and sweet gum. The ore fields and limestone deposits of Calhoun constitute its chief glory. Both brown and red hematite iron ores prevail in every portion. Manganese, marble, kaolin, sandstone, barite, copper, lead, lithographic stone and fire-brick clay are all found, in some cases in large quantities. The solid establishment and growth of Jacksonville, now Tredegar, prove that the site is one of the best in this favored county. It is on the East Tennessee, Virginia & Georgia Railway, which, with its connections, gives communication with all points, besides affording easy access to adjacent rich mineral, timber and agricultural tracts. Mr. J. M. Davis, of Chattanooga, an experienced mining expert, recently made a close investigation of the country around Tredegar. He states that the ore is as fine as he has ever seen in his life, and that it is simply inexhaustible in extent. After riding all over the iron property Mr. Davis said that, though he was acquainted with mostly all the best iron properties in the United States, he was free to say he had never before in his life seen anything surpassing the deposits

around Tredegar, either in richness or extent. The more he explored the more enthusiastic he became. He was even more astonished at the manganese than at the iron deposits. He had seen the statement that a vertical face of 15 feet of manganese had been discovered near the iron beds, and he found on examination that it is nearer 20 feet, while it might prove to be as much as 70 feet. It was of excellent quality and free from stone or other foreign substances.

Tredegar presents unsurpassed opportunities, especially for the establishment of iron and steel works, as furnaces, rolling mills, machine shops, foundries, etc.; car-wheel works and car shops; cotton mills and textile industries generally; cotton-seed oil mills and fertilizer factories; wood-working industries, furniture, carriage and implement factories; brick works, pipe works, etc. The establishment is already assured of two furnaces and a rolling mill, while basic steel works and a cotton mill will probably be secured. The chief promoter of the enterprise at Tredegar is the Jacksonville Mining & Manufacturing Co., of which Mr. Goldsmith B. West is general manager.—The South.

### Southern Railroad Stocks.

While there has been a very considerable decline in the value of many stocks during the past ten days, there are few groups of stocks which have not made a better showing in the market than the Southern railroad stocks. The three prominent members of this group are Louisville & Nashville, Richmond Terminal and Norfolk & Western preferred. All three are now at about the lowest point of the year, Louisville & Nashville being the exception. And yet there is not a section of the country in which the railroads have been and are and probably will continue to be working under more favorable conditions. There is not a section in which a more rapid or more steady growth in traffic and earnings has been realized. There is not a section where crop prospects are brighter, or toward which the eyes of capitalists are more often turned with a view of investing in new industrial projects. All the conditions are favorable for very profitable railroading. Of the three stocks named, two pay dividends. The Louisville & Nashville has been paying 5 per cent. in scrip, and threw in an extra 1 per cent. cash in the year just closed. Hereafter dividends in cash at the rate of 5 per cent. per annum are to be expected, with an extra at the close of the year if warranted. Norfolk & Western preferred is paying at the rate of 3 per cent. per annum, and is earning more. Perhaps no increase at present in this dividend should be expected, for the road is pushing out, and its conservative management will be likely to husband all resources until the worth of the new lines is proved. Richmond Terminal pays no dividends. It is a stock the value of which is very difficult to prove. It represents the equity in the Richmond & Danville system, the East Tennessee, Virginia & Georgia system, the Central of Georgia and the Georgia Pacific systems, and controls numerous other lines, including the Cincinnati Southern. All of these systems are increasing their earnings, and will eventually turn large dividends into the Richmond Terminal treasury. These stocks are worth more attention than they get. The first two are largely held in England, and the Britons have made big profits by holding to them through thick and thin. The third has not a good reputation. It has been a very treacherous stock, but its value is there nevertheless. It cannot be half so treacherous at a low price like that of to-day as when it was selling at 65 to 70, as it did a few years ago. The conditions are ripe to direct

money into Southern railroads, as well as into Southern land schemes and Southern iron furnaces. Possibly the demand will improve this fall. There ought to be money in buying either of these stocks, but especially L. & N. and R. T.—Boston Advertiser.

## Southern Financial News.

### NEW BANKS.

Alexandria, La.—G. W. Bolton and associates have applied for permission to organize a national bank. This bank will, it is stated, succeed the Bank of Rapides.

Butler, Ga.—A bank with \$50,000 capital stock will, it is stated, be organized.

Clarksville, Ark.—The Bank of Clarksville has been opened with a capital stock of \$25,000. John C. Hill is president, and C. L. Pyle, cashier.

Dallas, Texas.—The Bankers' Investment & Loan Co. has been chartered by C. Q. Crystler, A. A. Kline, W. H. Hall and others; capital stock \$700,000.

Denison, Texas.—The State National Bank has been authorized to increase its capital stock to \$150,000.

Graham, Texas.—The Beckham National Bank, lately reported as to be organized by W. P. Beckham & Son, has been chartered with W. P. Beckham, president, and E. B. Norman, cashier; capital stock \$100,000.

Graham, Texas.—The First National Bank, previously mentioned, will, it is reported, commence business shortly. The capital stock is \$50,000. R. E. Mabry is president, and Wm. Houston, cashier.

Greenville, S. C.—Another bank with a capital of \$50,000 or over will, it is reported, shortly be organized.

Hampton, Tenn.—Frank A. Stratton, of Knoxville, will, it is stated, open a private bank.

Hernando, Miss.—E. H. Granger, of Memphis, Tenn., has organized a bank.

Morristown, Tenn.—The bank mentioned last week is known as the Merchants' Bank of Morristown.

Natchitoches, La.—The Bank of Natchitoches, previously referred to, has been chartered with \$50,000 capital stock. A. E. Lemee is president, and W. C. Doak, cashier.

Pineville, Ky.—A safety vault and trust company has been organized with a capital stock of \$10,000.

Raymond, Miss.—A bank will, it is reported, be organized with a capital stock of \$50,000.

Roanoke, Va.—The Roanoke Savings Bank has been organized with a capital of not less than \$10,000 nor more than \$100,000. J. D. Smith is president, and C. R. Evans, cashier.

Temple, Texas.—The Bell County National Bank has been organized with a capital stock of \$50,000. C. L. McCoy is president, and H. D. Cone, cashier.

Waco, Texas.—The Central Bank of Waco has changed its name to the Bay Aransas Land & Trust Co.

Americus, Ga., has, it is stated, sold its bonds, recently referred to, to John A. Hambleton & Co., Baltimore, Md., at 108.

Bristol, Va., (P. O. Bristol, Tenn.) will probably issue \$50,000 of bonds for the purpose of providing for the erection of a jail, schoolhouse and five bridges.

The Atchison, Topeka & Santa Fe Railroad Co. (financial office, Boston, Mass.) has declared dividend of 2½ per cent. on income bonds out of earnings of road for 9 months ending June 30. Interest payable September 1.

The Coweta Fertilizer Co., Newnan, Ga., has declared a dividend of 8 per cent., payable on January 1.

The Dallas (Texas) Traction Co. has filed a mortgage upon its property to the Fidelity & Safe Deposit Co., of Philadelphia, Pa., to secure bonds amounting to \$1,250,000.

The East End Improvement Co., Louisville, Ky., offers for sale at par and accrued interest \$1,000,000 first mortgage gold bonds of the Louisville & Jeffersonville Bridge Co.; principal due January 1, 1910.

The Enterprise Land Co., Norfolk, Va., has declared a dividend of 12½ per cent.

The Hobbs Glass Co., Wheeling, W. Va., has declared a dividend of 5 per cent.

The Kansas City, Fort Scott & Memphis Railroad Co. (financial office, Boston, Mass.) has declared a dividend of 4 per cent. on preferred and 1½ per cent. on common stock.

The People's Loan & Homestead Co., Galveston, Texas, has declared a semi-annual dividend of 4 per cent.

The Richmond Building & Loan Co., Richmond, Ky., has declared a quarterly dividend of 2½ per cent.

Wilmington, N. C.—The Bank of New Hanover has declared a semi-annual dividend of 4 per cent.

Wilson, Colston & Co., Baltimore, Md., offer for sale first mortgage sinking fund gold 6 per cent. bonds of the Brunswick (Ga.) Light & Water Co. The principal is due 1910.

### Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, August 13, 1890.

	BID.	ASKED.
Baltimore & Ohio.....	103½	104
Northern Central.....	103½	104
Central Ohio.....	33	33
B. & O. Extended 4's.....	101	101
Pitts. & Con. 1st 7's.....	115½	116
Ga. Car. & N. 5's.....	102	102
Atlanta & Char. 1st 7's.....	121	121
Col. & Green. 1st 6's.....	106½	107½
Va. Midland, 2d 6's.....	117	117
Va. Midland, 3d 6's.....	110	110
Va. Midland, 5th 5's.....	103	103
Charlotte, C. & Aug. 1st 7's.....	107	109
West Va. Central 1st 6's.....	108½	109
Ga. Pacific 1st 6's.....	111	112½
Ga. Pacific 2d.....	78	78
West. Nor. Car. Cons'd 6's, Gold.....	100½	100½
Cape Fear & Y. Valley 6's, A.....	106	106
Cape Fear & Y. Valley 6's, B.....	103	103
Cape Fear & Y. Valley 6's, C.....	104½	104½

### Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, August 13, 1890.

Sterling.—Unsettled.		Commercial.
60 days.....	48¼	48½ @ 48¾
3 days.....	48½	
Francs.—		Commercial.
60 days.....	519½	523½ @ 523¾
3 days.....	516½	
Reichmarks.—		Commercial.
60 days.....	95½	94½
3 days.....	95½	95
Guilders.—		Commercial.
60 days.....	40½	39½
3 days.....	40½	40

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### Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., August 12, 1890.

	BID.	ASKED.
North Carolina 4's, 1910.....	99½	101
North Carolina 6's, 1919.....	127	128
Virginia New 3's, 1933.....	69½	69¾
Danville 5's.....	100	103
Lynchburg, Va., 5's, 1915.....	104	104
Petersburg, Va., 5's, 1918.....	103½	104
Norfolk, Va., 5's, 1911.....	104	104
Richmond, Va., 5's, 1922.....	110	114
Atlanta & Charlotte Ry., 1st 7's, 1907.....	121	122
Atlanta & Charlotte Gr'd 6's, 1900.....	105½	107
Char., Col. & Aug. R. R. Gen. 6's, 1933.....	109	110
Georgia Pacific Ry. 1st 6's, 1922.....	111½	112½
Georgia Pacific 2d 5's, 1923.....	78	79½
Ga. Pacific Income, 5's.....	30	30
Petersburg Railroad Class A 5's, 1926.....	104	104
Petersburg Railroad Class B 6's, 1926.....	109	111
Rich. & Danville R. R. Gold 6's, 1915.....	110	110
West. N. Car. R. R. Gr'd 6's, 1914.....	101	101
Northwestern N. Car. R. R. 1st 6's.....	103	103
Atlanta & Charlotte R. R. Stock.....	103	103
North Carolina Railroad Stock.....	103	103
R. F. & Pot. R.R. Div'd Obligations.....	113	114
Virginia Midland Railway Stock.....	53½	56
Sloss Iron & Steel Co. Stock.....	91	93
Sloss Iron & Steel Co. 1st 6's.....	91	93
Sloss Iron & Steel Co. 2d 6's.....	91	93

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## SOUTHERN STOCKS.

## OFFICIAL QUOTATIONS BIRMINGHAM STOCK EXCHANGE.

Corrected Weekly by MARTIN &amp; LEEDY, Stock and Bond Brokers, and Members Birmingham Stock Exchange.

SATURDAY, AUGUST 9, 1890.

STOCKS.		Capital	Par	LAST DIVIDEND.		
BANKS.	Organized.	Stock.	Value.	Declared.	on Stock.	Per Cent.
Alabama National	1886	\$500,000	100	July '90	a 4	110
American National	1887	250,000	100	July '90	a 4	100
Bank of Atlanta	1886	50,000	100	July '90	a 5	55 1/2
Berney National	1886	300,000	100	July '90	a 5	126 1/2
Birmingham National	1887	250,000	100	July '90	a 3	97
Central Savings	1889	50,000	100	July '90	.....	.....
City National	1889	100,000	100	July '90	a 6	175
First National	1884	250,000	100	July '90	a 6	184
First National Bank of Gadsden	1887	50,000	100	July '90	a 6	.....
Jefferson County Savings	1885	150,000	100	July '90	a 6	145
Birmingham Trust & Savings Co.	1887	500,000	100	July '90	a 3	105
Mutual Loan & Trust Co.	1888	50,000	100	July '90	.....	100
People's Savings Bank & Trust Co.	1888	50,000	100	July '90	a 4	115
RAILROADS.						
Birmingham Union Railway Co.	1887	1,000,000	50	.....	.....	25
Birmingham & Ensley Railway Co.	1887	500,000	50	.....	.....	25
North Birmingham Street R. R.	1887	65,000	50	.....	.....	50
Highland Avenue & Belt R. R. Co.	1887	1,000,000	100	.....	.....	45
South & North Alabama R. R. Co.	.....	.....	.....	.....	.....	30
MISCELLANEOUS.						
Avondale Land Co.	1884	150,000	100	Oct. '88	a 2	.....
Anniston City Land Co.	1887	3,000,000	100	July, '87	q 4	60
Alabama Coal & Iron Co.	1890	1,000,000	100	.....	.....	100
Alabama-Connell's Coal & Coke Co.	1886	500,000	100	.....	.....	23
Alabama Rolling Mill Co.	1887	250,000	100	.....	.....	60
Bessemer Land Co.	1887	2,500,000	100	May, '87	q 3 1/2	55
Birmingham Mining & Mfg. Co.	1887	150,000	100	Mch. '87	q 3 1/2	53
Birmingham-Ensley Land Co.	1886	450,000	100	.....	.....	5
Birmingham Ice Factory	1886	85,000	100	July, '89	a 10	105
Birmingham Water Works Co.	1887	500,000	100	.....	.....	83
Birmingham Soap Works Co.	1886	50,000	100	.....	.....	22
Brooklyn Land Co.	1886	1,400,000	100	.....	.....	30
Birmingham Furnace & Mfg. Co.	1886	1,500,000	100	.....	.....	16
Camille Gold Mining Co.	1887	1,500,000	100	.....	.....	70
Cahaba Coal Mining Co.	1887	1,400,000	100	.....	.....	36
Chattanooga East End Land Co.	1887	1,000,000	100	.....	.....	13
DeBardeleben Coal & Iron Co.	.....	4,000,000	100	.....	.....	25
Decatur Land Imp. & Furnace Co.	1887	5,000,000	100	.....	.....	14
Decatur Mineral Land Co.	1887	350,000	100	Oct., '87	q 3	23 1/2
Elyton Land Co.	1871	200,000	100	Nov. 10, '87	a 4	800
Edison Electric & Illuminating Co.	1886	100,000	100	July, '89	a 4	102
East Birmingham Land & R. R. Co.	1886	1,022,800	100	.....	.....	12 1/2
East Lake Land Co.	1886	200,000	100	June, '87	a 50	10
Ensley Land Co.	1886	10,000,000	100	.....	.....	65
Enterprise Manufacturing Co.	1886	100,000	100	.....	.....	32 1/2
Eureka (Furnace) Co.	.....	.....	.....	.....	.....	130
Florence Land & Mining Co.	.....	3,000,000	100	April, '89	q 1	23
Gadsden Land Co.	1887	3,000,000	100	April, '87	q 1	5 1/2
Gate City Land Co.	.....	.....	.....	.....	.....	30
Hecla Coal Co.	1888	300,000	100	.....	.....	10
Henderson Steel & Mfg. Co.	1887	100,000	100	.....	.....	75
Jefferson Building & Improvement Co.	1887	150,000	100	.....	.....	65
Jagger-Townley Coal & Coke Co.	1887	300,000	100	.....	.....	52
Leeds Land Co.	1887	150,000	100	.....	.....	60
Mag. Ellen Coal & Mining Co.	1887	100,000	100	.....	.....	100
Mary Lee Coal & Railway Co.	1888	500,000	100	.....	.....	20
North Birmingham Land Co.	1886	700,000	100	.....	.....	55
Smithfield Land Co.	1886	850,000	100	.....	.....	1
Sloss Iron & Steel Co.	1887	4,000,000	100	.....	.....	44
South Anniston Land Co.	1887	750,000	100	Apr. 15, '90	h 1	18
Sheffield Coal & Iron Co.	1883	1,000,000	100	Mch. '87	a 5	50
Thompson Brick Co.	1887	20,000	100	.....	.....	5
Tennessee Coal & Iron Co.	1887	9,000,000	100	May 15, '87	.....	90
Tennessee Coal & Iron Co., pref.	.....	1,000,000	100	.....	.....	45 1/2
Tuscaloosa Coal, Iron & Land Co.	1887	1,000,000	100	.....	.....	100
Vulcan Coal & Coke Co.	1886	100,000	100	.....	.....	24
West End Land Co.	1886	175,000	100	.....	.....	5
Woodstock Iron Co.	1887	3,000,000	100	.....	.....	80
						24
						35

BONDS.		Amount	Outstanding.	INTEREST.	Rate Per Cent.	Bid.	Asked
Alice Furnace	1887	300,000	300,000	7	103	103	103
Birmingham Gas & Electric Light Co.	1887	340,000	340,000	6	99 1/2	99 1/2	99 1/2
Birmingham Union Railway Co.	1887	500,000	500,000	6	99 1/2	99 1/2	99 1/2
Birmingham Water Works Co.	1887	400,000	400,000	6	111	111	111
Cahaba C. & M. Co., 1st Mortgage	1887	750,000	750,000	6	97 1/2	97 1/2	97 1/2
Caldwell Hotel	1887	150,000	150,000	6	97 1/2	97 1/2	97 1/2
Elyton Land Co., Trust Bonds	1887	2,400,000	2,400,000	6	97 1/2	97 1/2	97 1/2
Eureka (Furnace) Co.	1887	400,000	400,000	7	109	109	109 1/2
Henderson Steel & Mfg. Co.	1887	50,000	50,000	7	75	75	75
Mary Pratt Furnace	1887	100,000	100,000	7	100	100	100
Sloss Iron & Steel Co., 1st Mortgage	1887	2,000,000	2,000,000	6	91 1/2	91 1/2	91 1/2
Williamson Iron Co.	1887	2,000,000	2,000,000	6	99	99	99
Tennessee Coal, Iron & R. R. Co.	1887	60,000	60,000	8	100 1/2	100 1/2	100 1/2
Tennessee Division	1887	1,254,000	1,254,000	6	96 1/2	96 1/2	96 1/2
Birmingham Division	1887	3,640,000	3,640,000	6	100	100	100

EXPLANATION.—A—For six months. q—Only dividend declared since organization. x—This company declared 5 per cent. February 1 also. 2—Total dividends paid, 49 per cent. [—Dividend for one year, ending July 1, 1889. E—Sold hereafter Ex. 15 per cent. dividend. o—Dividend 3 per cent. paid in May, '87, also October 1. n—Fifty per cent. Dividend on Union R. R. Stock. h—Payable October 15, 1889. f—A 5 per cent. Dividend has been paid quarterly since organization. w—For dividends refer to the company. \* \* \* May 6, '87, 50 per cent. cash; May 10, '87, 50 per cent. cash; Sept. 14, '87, 50 per cent. cash; Oct. 10, '87, 10 per cent. cash; Oct. 10, '87, 10 per cent. cash; Nov. 10, '87, 10 per cent. cash; Nov. 10, '87, 100 per cent. in Elyton Land Company's Trust Bonds.

## The Southern Investment Co.

J. J. BURNS, Manager. 167 Dearborn St., Chicago, Ill.

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# CONSTRUCTION DEPARTMENT.

**WE PUBLISH**, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

## The Southward Trend of Material Forces.

Special reports to the MANUFACTURERS' RECORD show that the investment of outside capital in the South continues to increase, with all indications pointing to a heavy flow of money from the North and England during the fall into this section. The entire business world seems to appreciate the fact that the South must, for the next ten or twenty years, be the center of the greatest activity and prosperity that can be found in this or any other country, and hence there is everywhere seen a Southward trend of industrial movements, of money and of men of energy and foresight. Among the leading enterprises of the week indicating this fact is the organization of an English company to spend \$1,000,000 or more in the development of an iron property in Tennessee, famous for several generations for the quality of iron produced when in operation, but idle of late years because of lack of railroad facilities; the investment of \$1,250,000 in street railroad improvements in Dallas by a Philadelphia syndicate, and the organization in the same city of two companies of Northern capitalists to build cotton mills to cost about \$500,000; car works at Norfolk to cost \$500,000; a \$200,000 ice factory at A. Lanta by Chicago people; a furnace and rolling mill at Shenandoah, Va., by Philadelphia capitalists; a \$150,000 rolling at South Pittsburg by St. Louis ironmakers; a \$2,000,000 company of Northern people to develop a new town near Chattanooga, to build a cotton mill and other enterprises. These are but a few of the concerns reported for one week as being established by outside men and money. A dozen or more other large enterprises could be given, while hundreds are being organized and will be brought out this fall. While England and the North are thus taking such an active part in the industrial development of this section, the South is keeping up with the march of progress, and is doing, as it has done in the past, a still greater work on its own account. Moreover, it is busy now preparing to handle the largest cotton crop ever produced—a crop that, counting the value of seed, will yield to the South not much less than \$500,000,000—a crop raised at the minimum of cost, and which will command the maximum of price, because the world needs and must have our cotton, even at the high prices now ruling. The people of this section have reason to rejoice over the splendid prospects for the fall and winter, for never before was the outlook so good for a season of great prosperity and of great industrial, railroad and mercantile activity.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

\*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

### ALABAMA.

Anniston—Brewery.—Erwin Schillinger, of Birmingham, and others will charter the stock company lately reported as being organized to build a brewery.

Anniston—Foundry and Machine Shop.—The erection of a new foundry and machine shop is projected. A. H. Lavell, Rome, Ga., can give particulars.\*

Arlington—Grist Mill.—A grist mill is reported to be erected by G. T. Donnelly and M. E. Threadgill.

Birmingham—Coffin and Furniture Factory.—W. H. Morris purchased the machinery of the Gate City Lumber & Improvement Co., as reported in last issue (under Gate City). He will remove same to Birmingham, and add machinery to operate as a coffin and furniture factory.\*

Clanton—Cotton Gin, &c.—A. E. Bivings, R. Q. Lane and Will Rollinson will, it is reported, erect a cotton gin and grist mill.

Florence—Land.—R. T. Simpson has, it is reported, sold 315 acres of land for \$63,000 to a Massachusetts syndicate that will organize a stock company to improve it.

Greensborough—Artesian Well.—J. C. Webb has received contract to sink the artesian well lately mentioned.

Greensborough—Ice Factory.—A stock company will probably be organized to establish an ice factory.

Iron City—Iron Ore.—The Smith & Sharp Mining Co. has contract, as stated in last issue, to furnish 300,000 tons of iron ore to the Florence Cotton & Iron Co., at Florence, Ala., at the rate of 100 tons per year.

Montgomery—Bridge.—The board of revenue for Montgomery county will receive proposals until August 18 for the erection of a bridge over Catomoc creek.

Montgomery—Electric-light Plant.—The Citizens' Light & Power Co., previously reported as organized with P. B. Bibb, president, to erect an electric light plant, has been granted franchise by city council.

Montgomery—Water Works.—The city council is considering the purchase of the works of the Capital City Water Works Co. The mayor can give information.

Opelika—Furniture Factory.—J. B. Bennett is making efforts to secure the location of a furniture factory.

Opelika Ginnery.—The Opelika Iron Works, referred to in last issue, is erecting five gin stands.

Riverton—Brick-yard.—Chase & Pardee will, it is stated, start a brick-yard.

Sheffield—Iron Furnaces, etc.—The Alabama Iron & Railway Co., which will operate the three coke iron furnaces of the Sheffield & Birmingham Coal, Iron & Railway Co., decided at a meeting of its stockholders to issue \$300,000 of bonds and improve the furnaces, as lately reported.

### ARKANSAS.

Arkadelphia—Iron Foundry and Machine Shop.—It is stated that an iron foundry and machine shop will be established.

Arkadelphia—Electric light Plant and Water Works.—The erection of an electric-light plant and the construction of water works is projected. The mayor can give information.

Camden—Ice Factory.—The Arkansas & Texas Consolidated Ice & Coal Co. will operate the ice factory mentioned in last issue. A site has been purchased and work will commence shortly.

Fayetteville—Oil and Gas Wells.—Alexandria Hendrey and others will probably organize a stock company to sink oil and gas wells.

Fayetteville—Lead and Zinc Mines.—It is stated that the Thomas lead and zinc land is being developed.

Fayetteville—Lead and Zinc Mines.—John Winkelman is reported as developing lead and zinc land.

Fayetteville—Lead and Zinc Land.—The stock company lately mentioned as organized by J. P. Wood and others is reported as having leased the Peter Crissatt lead and zinc lands, and as to develop same.

Hot Springs—Mining and Milling.—The Jamestown Mining & Milling Co. is reported as incorporated with a capital stock of \$5,000,000.

Hot Springs—Reduction Works, &c.—The Idleville Mining Co. has been organized with C. D. Stanhope as president; G. M. Drake, vice-president, and G. W. Watson, secretary. The company owns mining lands in Garland and Saline counties, on which it will, it is stated, build reduction works.

Little Rock—Cotton Press Factory.—The Thomas Manufacturing Co., reported in last issue as contemplating the enlargement of its cotton press factory, will probably erect a new two-story building, 50x200 feet, for its woodworking department and use the present building for foundry and machine shop.

Little Rock—Awning and Tent Factory.—H. M. & O. D. Tucker started the awning and tent factory lately reported.

### FLORIDA.

Bartow—Phosphate Mines.—The phosphate land to be developed by the Farmers' Banking Co., of Griffin, Ga., is located between Bartow and Fort Meade.

Bartow—Phosphate Mines.—The Pharr Phosphate Co. will soon commence mining phosphate.

Beresford—Saw Mill, &c.—L. H. Harris has, it is reported, purchased A. H. Wellman's saw mill, dock, &c.

Bohemia (P. O. at Pensacola)—Shingle Mill.—J. H. O'Leary, L. H. Taylor and J. H. Faxon will, it is reported, erect a shingle mill.

De Land—Electric-light Plant and Ice Factory.—The De Land Electric Light & Ice Co. has been incorporated with a capital stock of \$150,000.

Federal Point—Sugar Mill.—A sugar mill is reported as being erected.

Fernandina—Foundry—Swearingen & Duryee will, it is stated, establish the foundry previously mentioned.

Fernandina—Creosote Works.—One of the new buildings reported in last issue as being erected at the creosote works of the Creosote Lumber & Construction Co. is to contain tanks, etc., for washing heavy oil, and the other building is for the manufacture of a merchantable light oil and creosoting materials.

Homeland—Phosphate Mines.—Isaac Whitaker will develop phosphate land as previously reported.

Jacksonville—Phosphate Mines and Works.—The Jacksonville & Peace River Phosphate Co. has been incorporated by John L. Marvin, G. W. Wilson, C. C. Robertson and others to mine and manufacture phosphate rock. The capital stock is to be \$1,000,000.

Madison—Grist Mill and Ginnery.—Theodore Randall is reported as to erect a grist mill and cotton ginnery.

Milton—Shingle Mill.—Carter Bros will build a shingle mill as lately reported.\*

Orlando—Phosphate Mines.—The Sinclair Co. will, it is reported, develop phosphate land.

Pensacola—Water Front Improvements.—The Pintado Water Front Co. has been incorporated with W. D. Chipley as president; Peter Knowles, vice-president, and T. C. Watson, secretary, to improve water fronts, etc. The capital stock is \$500,000.

Satsuma—Lumber Mill.—The Satsuma Lumber Co. has, it is reported, put in new machinery and built an addition to its lumber mill 30x60 feet.

South Lake Weir—Phosphate Lands.—It is rumored that a stock company will be organized to develop phosphate lands.

### GEORGIA.

Americus—Machine Shops.—The Savannah, Americus & Montgomery Railroad Co. is reported as putting new machinery in its machine shops.

Americus—Cigar Factory.—C. S. Warnock will probably start a cigar factory.

Atlanta—Jewelry Factory.—H. C. Underwood and H. Hayden have incorporated the Atlanta Jewelry Co. to manufacture jewelry, &c. The capital stock is \$5,000.

Atlanta—Printing House.—The Franklin Printing House will, it is reported, erect a marble front printing house.

Atlanta—Ice Factory.—It is reported that S. S. Jerome, agent for Armour & Co., of Chicago, Ill., will erect a 100-ton ice factory.

Augusta—Bridge.—The city council has appropriated \$8,000 to construct a bridge over the canal at Broad street in West End. The mayor can give information.

Augusta—Brick Works.—W. E. McCoy and others have, it is reported, purchased the brickyard of J. H. & G. B. Parker for \$50,000, and will organize a stock company to enlarge and operate same.

Boston—Phosphate Mines.—A Mr. Jones, of Atlanta, is reported as purchasing the P. Fay place of 134 acres for a company which intends developing phosphate mines on the property.

Brunswick—Land.—The Brunswick Investment Co. purchased land in Windsor Park as lately reported.

Brunswick—Starch Factory.—H. C. Parsons, of Clinton, Mass., will, it is reported, locate a starch factory in or near Brunswick.

Bunklev—Land.—G. W. Duncan, of Macon, and L. P. Hillyer have closed their option on 1,000 acres of land on Big Cumberland Island, mentioned in last issue.

Canton—Iron Furnaces, &c.—J. H. Moore, of Nashville, Tenn., has, it is reported, purchased the Donaldson iron property of 320 acres for \$10,000, and will organize a stock company to develop same, build iron furnaces, &c.

Carrollton—Ginnery.—Mr. Aycock, of Whitesburg, will, it is reported, improve his cotton ginnery.

Cedartown.—A land company will, it is stated, be organized.

Cedartown—Mineral Lands.—It is stated that W. A. Poste, representing a Northern syndicate, has purchased the mineral property of the Georgia & Alabama Consolidated Mining Co.

Columbus—Sewerage System.—The city will probably issue bonds for the construction of a sewerage system.

Eatonton—Cotton Compress.—The Putnam County Improvement Co. has the cotton compress previously reported under construction, and it is to be completed on or before September 15.

Gainesville—Carriage and Wagon Factory.—G. W. Walker is reported as putting new machinery in his carriage and wagon factory.

Macon—Canal, Reservoirs, &c.—B. S. Church, who has been investigating the project of the Macon Canal & Manufacturing Co. to construct a canal from a point on the Ocmulgee river to Macon to furnish an additional supply of water and power for manufacturing purposes, has submitted his report. He estimates that a canal to furnish 6,000 actual horse power, outside of the supply for the city, to cost complete, including water wheels, &c., \$313,000, and estimates that two additional reservoirs will be required at a cost of \$60,000; additional water pipes \$90,000, and electric dynamos and wires to generate the power at \$65,000, making a total of \$528,000.

Newnan—Mattress Factory.—McBride & Co. have, it is reported, started a mattress factory.

Perry—Laundry.—W. E. Fuller will start a steam laundry.\*

Rome—Foundry and Machine Shop.—J. A. George, recently reported as to erect a foundry and machine shop, has prepared plans for a three-story machine shop 60x100 feet and a foundry 30x50 feet.

Rome—Furniture Factory.—J. Cundell & Co., previously reported as having purchased the furniture factory of the Etowah Furniture Co., have incorporated the Cundell Furniture Co. to operate same. The capital stock is \$40,000.

Rome—Rolling Mill.—The Rome Rolling Mill has been purchased for \$38,500 by B. A. Jenkins, of Knoxville, Tenn.; J. J. Reed, D. R. Beynon and others, who have incorporated the Rome Cotton Tie Manufacturing Co. to operate same. The capital is \$50,000, and the plant will be enlarged.

Rome—Distillery.—W. L. and W. T. Horne, of Meriden, Conn.; Joseph Glatz, of Brooklyn, N. Y., and S. E. Clarke, of Hartford, Conn., have incorporated the "Cold Distilled Brandy Trust" to distill, rectify and manufacture wines and liquors by the Horne process. The principal office and place of business is to be in Rome, and the capital stock will be \$2,000,000.

Scully Shoals (P. O. at Maxey's)—Cotton Factory.—It is rumored that a stock company will be organized to establish a cotton factory.

Tallapoosa—Knitting Mill.—J. J. Taylor, A. J. Simpson, A. H. Ellwood and others have incorporated the Alliance Knitting Co. to erect a knitting mill, &c. The capital stock is \$20,000.

Vienna—Saw Mill.—Turlington & Codrington, of Macon, will move the saw mill lately operated at Towns by M. Codrington to a point near Vienna, and new machinery will be added.\*

### KENTUCKY.

Bardstown—Brick-yard.—Lud McKay has, it is reported, started a brick-yard.

Covington—Telephone Line.—J. S. Freshour, S. S. Kimberly and J. P. Dietrich have incorporated the West India & Columbia Telephone Co. with a capital stock of \$100,000.

Covington—Press Factory, &c.—H. M. Lewis and H. L. Fritze, of Hamilton county, Ohio, have incorporated the National Press & Mould Co. to manufacture presses and moulds for glass, &c. The capital stock is \$300,000.

Covington—Gold and Silver Mining, &c.—John McLeish, J. S. Day, J. H. Oberwite and others have incorporated the Sabinal Mining & Smelting Co. to mine and smelt silver and gold, &c. The capital stock is \$130,000.



Covington—Railroad Forging Works.—H. M. Lewis, of Hamilton county, Ohio, and J. S. Pessinger, of Kings county, New York, have incorporated the National Railroad Forging Machine Co. to manufacture railroad forgings. The capital stock is \$200,000.

Georgetown—Gas Works.—The Georgetown Water Co. has, it is reported, purchased the gas works of the Georgetown Gas Light Co.

Jackson—Oil Well.—G. J. Little has let contract for sinking an oil well 3,000 feet deep.

Louisville—Furniture Factory.—A. & G. Beuther and M. W. Connors have incorporated the A. B. uther Furniture Co. to manufacture furniture, etc. The capital stock is \$50,000.

Louisville.—The city has ratified by a popular vote the legislative act authorizing the issuance of \$600,000 of bonds to purchase and improve land for parks. The mayor can give particulars.

Louisville—Power Plant.—The Louisville Steam & Motive Power Co., recently chartered, will, it is reported, erect a six story building for a power plant at a cost of \$77,000.

Louisville—Water Works.—S. J. Hobbs, W. J. Dodd, Mason Marry and others have incorporated the Domestic Water Works Co. to construct water works, etc. The capital stock is \$50,000.

Louisville—Land.—The Boulevard Lot Co. has been incorporated with R. Whitney as president; R. T. Coleman, vice president, and S. S. Bush, secretary, to improve the "Oakdale Addition" and other lands. The capital stock is \$30,000.

Maysville—Manufacturing, etc.—The Limestone Real Estate & Land Co. has been incorporated by J. H., S. M. and W. F. Hall with authority to deal in real estate and manufacture building materials. The capital stock authorized is \$5,000.

Maysville—Laundry.—Cannon & Co. will add some washing and ironing machinery to their steam laundry mentioned in last issue.

Middlesborough—Paving.—J. A. & W. C. Doyle, of Knoxville, Tenn., have received contract to grade and macadamize 20th, 21st and 22d streets, and the Middlesborough Pavement Co. has received contract to curb and gutter the above streets.

Middlesborough—Lumber Mills.—The Middlesborough Lumber Co. has amended its charter, changing its name to the Cumberland Co.

Newport—Bridge.—C. L. Jungerman, city engineer, will receive bids for constructing the iron or steel highway bridge over Taylor's creek, mentioned in last issue. The bridge is to have a roadway 18 feet wide.

Newport—Water Works.—Specifications are being prepared for the reconstruction and repair of the reservoirs at the city water works. The estimated cost is about \$270,000, and contracts will be awarded September 1. C. L. Jungerman, city engineer, can be addressed.

Owensboro—Brick and Tile Works.—The Owensboro Brick & Tile Co. has been organized with G. W. Mullen, of Whitesville, as president; T. E. Norman, vice president, and W. B. Kennady, secretary, to establish brick and tile works.

Stanford—Flour Mill.—The Stanford Mill Co., lately mentioned as reorganized to operate the Stanford flour mill, has been incorporated as the New Stanford Roller Mill Co. by T. J. Foster, J. S. Hocker, A. M. Pence and others. The capital stock is \$30,000.

Winchester—Machine Shop.—It is reported that Mr. Mershon will erect a machine shop.

Winchester—Planing Mill.—Conn Bros. have, it is stated, added new machinery to their planing mill.

#### LOUISIANA.

Baton Rouge—Levee Construction.—The State board of engineers will receive bids until August 23 for a considerable amount of levee work.

Brusly Landing—Saw Mill, etc.—Northern capitalists will, it is reported, purchase site and erect a saw and shingle mill.

Franklin—Electric-light Plant.—J. A. Morris and A. B. Baker have, it is reported, erected an electric-light plant at their sugar mill.

Natchitoches—Hedge Fences.—A hedge fence company is being organized.

New Orleans—The Louisiana Ice Co. started an ammonia ice factory, as stated in last issue.

New Orleans—Medicine Factory.—The Radam's Microbe Killer Co. has been incorporated to operate a medicine factory. The capital stock is \$100,000.

New Orleans—Terra Cotta Works, etc.—The F. Codman Ford Building Specialties Co., Limited, has been incorporated to manufacture terra cotta, tiles, etc. The capital stock is \$25,000.

Port Hudson—Brick-yard.—W. S. Slaughter & Bro. will start a brick-yard.

Rayne—Ice Factory.—An ice factory is reported as being erected.

Rayville—Cotton Gin, Ice Factory, etc.—The Richland Manufacturing Co. has been incorporated with a capital stock of \$10,000 to manufacture ice and lumber, and operate a cotton gin and grist mill. It will erect a 5 ton ice machine.

Shreveport—Planing Mill.—Whited, Wheelless & Williams are erecting a planing mill as reported in last issue.

#### MARYLAND.

Aberdeen—Chair Factory.—It is stated that J. C. Fisher and others, recently reported as to start a chair factory, have leased site and will erect buildings for same at once.

Baltimore.—James Boyce, Edward Rider, Jr., W. M. Isaac and others will probably organize the Chestnut Summit Avenue Co.

Baltimore.—E. D. Smith & Son contemplate putting in a 20 horse-power boiler; the Virginia Rock Spring Co., a 20 horse power boiler; Joel Gutman & Co., a 50 horse-power boiler, and H. Z. Mitchell, a 20 horse power boiler.

Bettinger (P. O. at Grantsville).—Timber Land, &c.—A Cumberland company is reported as having purchased 4,000 acres of timber land near Bettinger, and are to develop same and build a new town.

Easton—Corn and Feed Mill.—Isaac A. Barber has purchased a corn and feed mill, to be erected at his flour mill.

Federalburg—Flour Mill.—Brown & Davis are erecting a flour mill and have let contract for machinery.

Hagerstown—Land.—H. H. Keedy and others have, it is reported, purchased the Joseph Reynolds property of 33 acres of land for \$23,000.

Oakland—Woolen Mills.—It is stated that the Oakland Woolen Mills will be rebuilt, the new structure to be 125x75 feet and 5 stories high.

Sassafras—Creamery.—A stock company is reported as organized to erect a creamery.

St. Michael's—Corn and Feed Mill.—Isaac A. Barber, of Easton, has added a feed and meal mill to his St. Michael's flour mill.

Washington, D. C.—Paving, etc.—The District commissioners will receive proposals until August 30 for laying asphalt roadways, curbing, gutters and sidewalks, and until August 28 for furnishing 400,000, more or less, vitrified paving bricks.

Williamsport—Cement Quarries.—Allen Yingling and E. W. Embrey, of Hagerstown, have, it is reported, leased the cement quarries of E. T. Bishop, and will organize a company to develop same.

#### MISSISSIPPI.

Bay Saint Louis—Ice Factory.—E. S. Maunsell, of 30 Carondelet street, New Orleans, La., is organizing a stock company to erect an ice factory in Bay Saint Louis of about 10 tons daily capacity.

Greenville—Ginnery.—Joseph Davies will start a cotton ginnery, as previously reported.

Jackson—Cotton Factory.—J. S. Richardson has offered to subscribe \$100,000 to the stock of a \$250,000 cotton mill, provided that the remainder of the capital stock is raised in Jackson.

Port Gibson—Ice Factory.—A stock company is being organized to erect an ice factory.

Vicksburg—Cotton Compress.—The Planters' Cotton Compress Co. is reported as to build an addition to its cotton compress.

Vicksburg—Ice Factory.—The Flowerice Ice Factory is reported as putting in new machinery.

#### NORTH CAROLINA.

Asheville—Canning Factory.—The Farmers' Alliance has purchased machinery for its canning factory recently mentioned, and will soon commence operations.

Burke County—Mining.—E. Conradi, agent for an English syndicate that owns a large tract of mineral land, is at Morganton, and is reported as arranging for the development of the property.

Charlotte—Shoe Factory.—W. E. Holt, J. S. Spencer and J. C. Smith have organized a company to establish a shoe factory.

Charlotte—Machine Shops.—The Richmond & Danville Railroad (office, Richmond, Va.) intends building additional machine shops and will probably locate one of them in Charlotte. The company has purchased a large tract of land, which is probably intended for a site.

Durham—Publishing.—John F. Crowell is president and W. A. Blair secretary of the Educator Publishing Co., lately reported.

Durham—Laundry and Machine Shops.—Machine shops and a steam laundry are to be built at Trinity College. S. L. Leary, architect, can give particulars.

Fayetteville—Flour Mill.—The Carolina Roller Mills & Supply Co. has purchased additional machinery for its flour mill.

Graham—Cotton Mill, &c.—The Oneida Cotton Mill has, it is reported, constructed a 712-foot dam across Haw river, will erect a new lapperhouse and put in new machinery.

Haw River—Flour Mill.—T. M. Holt will, it is reported, erect a 50-barrel roller flour mill.

Marion—Brick-yard.—Messrs. Blanton, Burton & Morgan have, it is reported, started a brick-yard.

Monroe—Oil Mill.—J. T. Helms is organizing the stock company to erect the cotton seed oil mill lately mentioned.

Morganton—Timber Land.—The Morganton Land & Improvement Co. has recently purchased

70,000 acres of timber land in Western North Carolina and may develop.

Newberne—Saw and Planing Mill.—A Northern syndicate is reported as negotiating for the purchase of the Daniel Stinson saw and planing mill.

Oxford—Water Works.—The city will hold an election to decide upon a proposition to issue \$50,000 of bonds for the construction of water works.

Rock—Granite Quarry.—John F. Wyatt, of Salisbury, has purchased the Powlas granite mountain and proposes organizing the J. T. Wyatt Granite & Improvement Co. to develop same.

Weldon—Grain Elevator.—The Roanoke Water Power & Navigation Co. is erecting a grain elevator, as reported in last issue.

Wilmington—Cotton Mill.—The Wilmington Cotton Mills is erecting a building 70x156 feet, as stated in last issue, and has purchased all machinery for enlarging its plant.

Winston—Lumber Mill.—It is rumored that the erection of a lumber mill by High Point parties is contemplated.

Winston—Smelting Works.—An English syndicate is reported as negotiating for the purchase of mineral land in Alleghany, Surry, Wilkes and Watauga counties, with a view to the erection of smelting works in Winston.

#### SOUTH CAROLINA.

Abbeville—Ginnery and Oil Mill.—The Abbeville Oil & Fertilizer Co. is erecting the cotton ginnery previously reported, and will, it is stated, enlarge its cotton-seed oil mill.

Anderson—Fertilizer Factory, Oil Mill, etc.—P. K. McCully is president; W. G. Watson, vice-president, and J. L. Glenn, secretary, of the Anderson Ginning & Manufacturing Co., recently reported.

Anderson—Publishing.—J. W. Bowden, T. H. Burris, A. C. Latimer and others have incorporated the People's Advocate Co. to publish a newspaper. The capital stock is \$2,000.

Batesburg—Ginnery.—Efforts are being made to organize a stock company to erect a cotton ginnery.

Charleston—Manufacturing.—The Emerson Car Co. has been incorporated to manufacture and handle an invention of A. S. Emerson for ventilating railroad coaches and cars. The capital stock is \$300,000.

Columbia—Granite Quarries.—A. R. Stewart has, it is reported, purchased the Granley quarries and all other property in South Carolina of the Southern Construction & Quarry Co., of Nashville, Tenn., for \$19,700.

Florence—Laundry.—C. A. Buckheit, C. L. Stickney, S. D. Fant and others have incorporated the Florence Steam Laundry & Manufacturing Co. to erect a steam laundry, canning factory and candy factory. The capital stock is \$2,000.

Gaffney City—Water Works.—F. G. Stacy will receive bids for the construction of water works.

Gibsonville—Corn and Flour Mill.—B. & J. A. Davidson organized a stock company to erect a corn and flour mill, as reported in last issue.

Greenville—Manganese Mines.—G. F. Ross and W. A. McLees, of Phoenix, and A. C. Stockman contemplate developing the manganese lands lately referred to.

Laurens—Furniture Factory.—E. H. Wilkes and others will probably organize a stock company to start a furniture factory.

Marion—Oil Mill.—The Marion Oil Mill Co. is reported as adding a cotton gin and grist mill to its oil mill.

Orangeburg—Manufacturing, etc.—The Bowman Land & Improvement Co. has been incorporated by Samuel Dibble, B. H. Moss and Thomas M. Ransom with the privilege of dealing in real estate, manufacturing, etc. The capital stock is \$40,000.

Orangeburg—Electric-light Plant.—The Orangeburg Electric Light & Electric Power Co. has been incorporated by E. F. Slater, J. M. Oliver and C. G. Danzler to erect an electric light plant.

Rock Hill—Electric-light Plant.—The Rock Hill Electric Light Co. has let contract to the National Manufacturing Co. for the erection of the electric-light plant previously mentioned.

Spartanburg—Brick Works, etc.—The Morgan Iron Works, recently reported as to succeed the Morgan Manufacturing Co. and to build a foundry, machine shops, sash, door and blind factory and general woodworking establishment, has a capital stock of \$25,000, and will put additional clayworking machinery in its brick works.

Sumter—The Sumter Land & Improvement Co. has been incorporated by John P. Coffin, of Florence, and W. M. Graham. The capital stock is to be \$100,000.

Sumter—Bottling Works.—D. Rosendorf contemplates starting bottling works.

Sumter—Ice Factory.—The Sumter Ice Manufacturing Co., lately reported as organized to erect an ice factory, has been incorporated with J. J. Harby, president, and E. H. Moses, vice-president and secretary. The capital stock is \$10,000.

Varnville—Planing Mill, etc.—E. R. Grim is reported as erecting a planing mill and woodworking factory.

#### TENNESSEE.

Athens—Chair and Furniture Factory.—T. Stackpole, of Cleveland, Ohio, has, it is stated, reorganized the Athens Chair & Furniture Works, will improve same and put in new machinery.

Bristol—Bridges, &c.—The city will issue \$30,000 of bonds to construct five bridges, viz: on Front, Lee, Moore, Cumberland and Main streets.

Cardiff—Iron Furnace.—The Cardiff Coal & Iron Co., recently mentioned as breaking ground for its iron furnace, will erect a furnace 60x75 feet, to have three fire-brick stoves 12x70 feet, two blowing engines of 500 horse-power, and five sets of boilers with 1,200 horse-power.

Chattanooga.—The Cumberland Investment Co. has been incorporated by A. C. Downs, J. S. Bell, J. W. Robertson and others to deal in real estate.

Chattanooga—Fire brick and Sewer pipe Works. Montague & Co., referred to in last issue, have put an additional battery of boilers in their fire-brick and sewer-pipe works.

Chattanooga—Barrel Factory and Nail Mill.—A Cincinnati (Ohio) party has made a proposition to erect a barrel factory and nail mill in Chattanooga.

Chattanooga—New Town, &c.—A new industrial town to be called South Lowell will, it is stated, be built by the South Tennessee Land Co., lately mentioned as chartered. According to the statement, the company will expend about \$1,000,000 in laying off and improving 1,000 acres of land, and the location is projected of a cotton factory, engine works, shoe factory, and other industries. The capital stock is \$2,000,000.

Clarksburg—Flour Mill.—Kendrick, Pettus & Co. will, it is reported, remodel their flour mill and put in new machinery at a cost of \$6,000.

Clinton.—John Chumbley and others will, it is reported, establish an ice factory.

Cumberland Iron Works.—(P. O. Dover)—Furnaces, &c.—The Cumberland Land Co. has been incorporated, it is stated, at London, Eng., with a capital stock of £350,000, and purchased the Cumberland Iron Works property, which includes 46,000 acres of farming and mineral lands and the Cumberland Iron Works. The company will, it is reported, expend \$1,000,000 in developing the mines and building furnaces, rolling mills, etc. M. L. Scott, of Bloomington, Ill., can give information.

Ducktown—Copper Mines.—The report mentioned in last issue that the Standard Oil Co. had leased the Ducktown copper mines and would develop is denied by William Rockefeller, president of that company, in a letter to the MANUFACTURERS' RECORD.

Dunlap—Coal and Iron Mines, Furnace, etc.—The Dunlap Coal, Iron & Railway Co., mentioned in last issue, will develop its coal and iron properties previously referred to, and proposes to build an iron furnace and a number of coke ovens.

Harriman—Engine and Machine Shops.—The Duthie Engine & Machine Shops, of Knoxville, will, it is stated, be removed to Harriman and operated by the Duthie Machine & Foundry Co., which has been organized with a capital stock of \$20,000.

Harriman—Rolling Mill.—The Lookout Iron Co., of Chattanooga, lately reported as to move its rolling mill to Harriman, has been reorganized with a capital stock of \$200,000. Plans and specifications for the buildings have been completed, and work is to begin at once. It is expected that the mill will be in operation by December 1.

Harriman—Tack Factory.—The tack factory of Fosgate & Lane, at Auburn, N. Y., will be moved to Harriman and operated by the Harriman Tack Co. It is stated that a site has been selected and a brick building 40x175 feet will be built.

Iron City—Planing Mill and Stave Factory.—A stock company will probably establish a planing mill and stave factory. The Iron City Co. can give information.

Iron City—Bridge.—A bridge will probably be built over Brush creek.

Iron City—Carriage Factory.—James Ballou is reported as having established the carriage factory previously mentioned.

Johnson City—Rail Mill.—It is stated that a stock company is being organized to construct a steel rail mill. The Proctor Land Co. can give information.

Kelley's Ferry—Distillery.—E. R. Betterton and S. D. Cate, of Chattanooga, are reported as to erect distillery. The capital is said to be \$20,000.

Kington—Saw Mill.—A company has erected a saw mill and will add the sash, door and blind factory lately reported.

Knoxville—Machine Shops.—The East Tennessee, Virginia & Georgia Railroad Co. has awarded contract for roofing its machine shops and roundhouse to the Southern Cornice Co., of Chattanooga, at \$14,000.

Luttrell—Saw and Planing Mill.—Tolliver Bros. are reported as erecting a saw and planing mill.



**Luttrell—Quarrying.**—A company has been organized, it is stated, to develop cement rock. The Luttrell Town Co. can give information.

**Memphis—Grain Elevator.**—E. C. Buchanan & Co. contemplate the erection of a grain elevator.

**Memphis—Ice Factory.**—It is stated that a stock company will be organized to erect another ice factory.

**Memphis—Cotton Compresses.**—Negotiations are pending for the consolidation of the Merchants' Cotton Press & Storage Co. and the Buyers' & Factors' Compress Co., mentioned in last issue.

**Mt. Pleasant—Saw Mill, etc.**—Felix Wood has purchased the Neeley mill property, and will, it is stated, put in wool-carding machinery.

**Nashville.**—The property of the West Nashville Screen Door Co. has been purchased by O. I. Luce for \$17,000.

**South Pittsburg—Rolling Mill.**—The Coleman Rolling Mill Co. will be incorporated with Barry Coleman, of St. Louis, Mo., as president, to construct the rolling mill lately mentioned with a capacity of 30 tons of iron per day, and at a cost of \$85,000. The capital stock is to be \$150,000.

**South Pittsburg—Water Works.**—The South Pittsburg City Water Co. is the name of the company recently reported as having purchased the city water works, and will expend \$40,000 in improving and enlarging the plant.

**South Pittsburg—Brick Works, Coal Mine, &c.**—The South Pittsburg Land, Mining & Manufacturing Co., previously reported, operates a brickyard and coal mine and contemplates starting a grist mill.

**South Pittsburg.**—The South Pittsburg Stove Co. has, it is stated, been organized to erect a stove foundry.

**Trenton—Water Works.**—Specifications are being prepared for the water works referred to in last issue, and bids for construction will be wanted when completed. M. Oppenheimer, mayor, can be addressed.

#### TEXAS.

**Aransas Pass—Land.**—Eugene Williams, Sanger Bros., W. W. Selev and others, of Waco, have purchased 24,000 acres of land on Black Jack peninsula from Samuel Smith for \$95,000.

**Aransas Pass.**—The Aransas Pass & Harbor City Improvement Co. has been incorporated with R. B. Harrison as president to build a city at Aransas Pass and construct a channel in Aransas harbor. The capital stock is \$60,000.

**Austin—Dam, &c.**—The Board of Public Works will receive bids until October 15th for the construction of the dam and canal recently mentioned. The board requires a bond of \$50,000 for the acceptance of the contract and of \$150,000 for the completion of same.

**Beeville—Brick-yard.**—Another brick-yard is said to have been established.

**Beeville—Water Works.**—A. C. Jones, mayor, is arranging, it is stated, for the construction of water works.

**Benjamin—Flour Mill, Gin, &c.**—A flour mill, cotton gin, corn mill and blacksmith shop are reported as established.

**Bowie—Coal Mines.**—Nawaltney & Co. are developing the coal mines lately reported.

**Bradfordville—Cotton Gin, &c.**—A cotton gin and grist mill is reported as being erected.

**Brenham—Oil Mill.**—It is stated that \$60,000 is the price paid by the Brenham Compress Co. for the Brenham Cotton Seed Oil Mill, mentioned in last issue.

**Buda—Grist Mill and Gin.**—The Farmers' Alliance, recently reported as erecting a cotton gin, will charter the Buda Milling & Ginning Association with a capital stock of \$20,000.

**Cisco—Water Works.**—The city will hold an election to decide upon a proposition to issue bonds for the construction of water works.

**Corsicana—Land.**—The Corsicana Land & Improvement Co., with a capital stock of \$50,000, has been incorporated.

**Dallas—Ice Factory.**—The Dallas Ice Factory is reported as to be enlarged.

**Denison—Ice Factory.**—The Denison Crystal Ice Co., reported in last issue, has put in machinery, increasing capacity from 20 to 40 tons daily, and will add a new boiler this winter.

**El Paso.**—Electric-light and Gas Works, etc.—The El Paso Gas, Coke & Coal Co., with a capital stock of \$100,000, and the El Paso Gas, Electric Light & Power Co., with a capital stock of \$300,000, are reported as incorporated.

**Fort Worth—Water Works.**—It is stated that the Chamberlin Investment Co. has let contract for the construction of water works at Arlington Heights.

**Galveston—Cracker Factory.**—The American Biscuit & Manufacturing Co., of Chicago, Ill., purchased the property of the Lone Star Cracker Co., as reported in last issue.

**Galveston.**—The Dickinson Loan & Improvement Co., previously referred to, has been incorporated by George Anderson, F. O. Bayland, W. L. Fuller and others with a capital stock of 100,000.

**Galveston—Factory.**—Clarke & Courts will erect a five story factory, 43x120 feet, to cost \$50,000.

**Graham—Coal Land.**—A Dallas party is reported as having purchased 3,000 acres of coal land near Graham from John James and others for \$30,000.

**Iowa Park—Gin.**—A cotton gin will probably be erected.

**Jefferson—Bridge.**—The county commissioners contemplate building a bridge over Jims' bayou.

**Palestine—Water Mains.**—The Palestine Water Co. laid one mile of additional mains as stated in last issue.

**Plano—Cotton Gin.**—H. M. Beaty & Sons have, it is reported, erected a cotton gin.

**Quanah—Cement Works.**—The Bourne Cement & Plaster Co., of Trinidad, Col., has, it is reported, purchased cement beds near Quanah, and will build cement works.

**Robinson—Cotton Gin.**—It is stated that a cotton gin has been erected.

**San Antonio—Canning Factory.**—The erection of a \$20,000 canning factory is projected.

**San Antonio—Pottery.**—The Alimo Pottery Co., Neil Mackey, president, mentioned in last issue, will rebuild its plant, erecting a two-story building 150x30 feet.\*

**Temple—Cotton Gin.**—E. B. Greathouse has, it is reported, improved his cotton gin.\*

**Terrell—Electric-light Plant.**—It is stated that a stock company has been organized to erect an electric-light plant, and has received franchise to light the city. The mayor can give information.

**Tyler—Bridge.**—A bridge will probably be built over the Neches river near Tyler.

**Tyler—Woolen Mill.**—It is reported that a \$20,000 stock company will start a woolen mill.

**Weatherford—Coal Mines.**—The Weatherford Mineral Wells & Northwestern Railroad Co. will, it is stated, sink a new shaft at its coal mines.

**Winchester—Electric-light Plant.**—The erection of an electric-light plant is projected.

#### VIRGINIA.

**Alexandria—Stock yards.**—The location of extensive stock-yards in Alexandria by Southwest Virginia and Tennessee cattle dealers is reported as contemplated.

**Alexandria—Land.**—The Spring Lake Park Co. has been incorporated with Washington Danenhower, of Washington, D. C., as president and G. Y. Worthington as secretary, to deal in real estate. The capital stock is \$30,000.

**Atlas—Flour Mill.**—A. Reaves & Son have put rolls in their flour mill.

**Botetourt County—Marble Quarry.**—H. H. Powers & Co., of Radford, will, it is reported, develop a marble quarry in Botetourt county.

**Buena Vista—Land, &c.**—The Home Investment Co. has been chartered with W. T. Thom as president; W. S. Hopkins as vice-president and F. D. Coe as secretary, to deal in real estate, &c. The capital stock is \$50,000.

**Clifton Forge—Woolen Mill.**—The Clifton Forge Woolen Mills Co., mentioned in last issue, will erect a building two and a-half stories, 40x80 feet, for its plant.

**Clifton Forge—Brick-yard.**—Billheimer & Partlow are reported as to establish a brick-yard.

**Clifton Forge—Bridge.**—The Clifton Forge Co. wants bids for the construction of a bridge over Smith creek, to be completed in 30 days.

**Covington—Iron Lands.**—A. E. & D. J. Huddleston, of Greenbrier county, West Virginia, have, it is reported, purchased 900 acres of iron lands near Covington and will organize a stock company to develop same.

**Fishersville—Iron Mine.**—C. P. Young is reported as opening an iron mine.

**Fort Defiance—Flour Mill.**—E. Cline & Co. have started a new roller flour mill of 50 barrels daily capacity.

**Goshen Bridge—Car Works, &c.**—Iron pipe works, a nail factory, passenger and electric car works, a foundry and machine shop, a wood-working factory, a box factory and a saah, door and blind factory are reported as to be established. The Goshen Land & Improvement Co. can give information if correct.

**Graham—Artesian Well.**—The Graham Land Improvement Co. has let contract to P. H. & J. Conlon, of New York, to sink an artesian well.

**Leesburg—Corn Mill.**—E. B. White & Bro. will erect a corn mill.

**Lynchburg—Freezer Factory.**—The Hill City Economy Freezer Co. has been organized by James Hancock, H. H. Payne, J. A. Davis and others, to manufacture the Economy ice cream freezer, mentioned in last issue.

**Lynchburg—Shoe Factory.**—The Lynchburg Shoe Manufacturing Co. has been organized with W. H. Wren as president; H. B. Watts, vice-president, and J. D. Tate, secretary, to establish the shoe factory lately reported as to be moved from Philadelphia, Pa., to Lynchburg.

**Lynchburg—Iron Furnace.**—The Lynchburg Iron Co., previously mentioned as repairing its iron furnace, has been reorganized under its new charter with E. Burd Grubb, of New Jersey, president.

**Middletown—Carriage Factory.**—The Middletown Land & Improvement Co. has commenced the erection of the carriage factory previously reported.

**Norfolk—Car Shops.**—It is stated that the Norfolk & Western Railroad Co. has commenced work on its car shops at Lambert's Point; they will cost about \$20,000.

**Norfolk—Furniture Factory.**—The erection of a furniture factory is projected. E. M. Henry & Co. can give information.\*

**Pearisburgh—Iron Mines.**—D. W. Mason is reported as opening the Johnston iron mine, near Ripplemead Depot.

**Portsmouth—Chemical Works.**—W. S. Wolff, of Philadelphia, Pa., is investigating with a view to establishing chemical works.

**Portsmouth—Canning Factory.**—C. F. Ironmonger & Co., of Norfolk, are reported as erecting an oyster canning factory in Portsmouth.

**Pulaski City—Lithia Springs.**—R. D. Bohannon, of Columbus, O., and G. V. Litchfield, of Abingdon, have, it is reported, purchased the Cove Lithia Springs of 69 acres of land from Crockett, Thomas & Co., of Wytheville, and will organize a \$50,000 stock company to improve same.

**Pulaski City—Carriage Factory.**—The Pulaski Carriage Co. will, it is reported, increase its capital stock; also the capacity of carriage factory.

**Richmond—Electric Plant.**—Warner Moore, James W. Allison and others, reported elsewhere in this issue as to build an electric railway, propose erecting a plant to furnish electric-lights and power.

**Roanoke.**—The Virginia Furnace Co. has amended its charter, increasing capital stock from \$10,000 to \$20,000. J. B. Levy is president of the company.

**Roanoke—Cement Works, &c.**—The Roanoke Building Stone & Pavement Co. has been incorporated with R. H. Woodrum, president, to manufacture building materials and cement and pave streets. The capital stock is \$25,000.

**Salem.**—The Carper Spark Conductor Co. has completed its organization with D. B. Strouse, president, and W. T. Younger, secretary. It will not erect a factory at present. The capital stock is \$1,000,000.

**Shenandoah—Iron Furnace and Rolling Mill.**—The Shenandoah Furnace Co. has completed plans for the building of the rolling mill and additional iron furnace previously reported.

**Shenandoah—Electric Light and Water Works.**—The Shenandoah Land & Improvement Co. will soon commence the erection of an electric-light plant and construction of water works, previously mentioned.

**Snickersville—Land.**—Washington (D. C.) parties, represented by Henry Harrison, Mason Throckmorton and Rozier Dulany, are reported as negotiating to purchase about 5,000 acres of land.

**Stanly—Iron Furnace, &c.**—The Stanly Land & Improvement Co. has been organized and proposes to develop 5,000 acres of mineral land, 1,000 acres of timber land, build an iron furnace, a speigle furnace and rolling mills. The capital stock is \$1,000,000.

**Staunton—Shoe Factory.**—The Staunton Shoe Factory will increase its capital stock from \$25,000 to \$50,000, as lately stated.

**Valley View—Land.**—W. H. Beardsworth, of Luray, is reported as having purchased the Valley Springs property of A. R. Rosenberger, of New Market.

**Vinton—Water Works.**—The Vinton Water Co. has, it is reported, let contract for the construction of water works to S. B. Mosby & Co., of Bedford City.

**Waynesboro—Iron Mines, Furnaces, etc.**—J. V. Umberger, general manager of the Ingalls Iron & Coal Co., recently reported as incorporated, claims that his company will soon commence the development of its iron mines; will erect an electric-light plant to light same; also build twin iron furnaces of 100 tons daily capacity each, a pipe foundry, rolling mill and steel plant in Waynesboro, and 1,000 coke ovens at its coal mines in West Virginia, the output of which it intends increasing.

**Woodville—Flour Mill.**—G. M. Brown contemplates erecting a short system flour mill.\*

**Wytheville—Knitting Factory.**—W. Krennings, Jr., of Celina, Ohio, writes that nothing definite has been done towards the erection of the knitting factory mentioned in last issue.

#### WEST VIRGINIA.

**Belcher—Coal and Coke Mines.**—The Keystone Coal & Coke Co. has been incorporated with a capital stock of \$10,000.

**Braxton—Land.**—The West Virginia Coal, Iron & Lumber Co. will, it is reported, develop 200,000 acres of land in West Virginia.

**Brown's Mill—Oil Well.**—White & Jackson are reported as sinking another oil well.

**Buckhannon—Brick Works.**—Mr. Groescup will, it is reported, start brick works at North Buckhannon.

**Charleston—Laundry.**—The Hotel Ruffner is reported as putting in a new steam laundry.

**Charleston.**—The Coal & Coke Co. has been chartered.

**Flipping—Coke Ovens.**—The Louisville Coal & Coke Co. will build at once 25 additional beehive coke ovens.\*

**Hinton—Water Works.**—Contract for constructing the water works lately mentioned has been awarded to the Glamorgan Co., of Lynchburg, Va., at \$20,000, by the Hinton Water Works Co.

**Huntington—Electric-light Plant.**—The Thomson-Houston Electric Co., of Boston, Mass., contemplates the erection of an electric-light plant in Huntington.

**Loudenville—Flour Mill.**—The Loudenville Milling & Manufacturing Co., reported in last issue as incorporated, will operate a mill already established.

**Mannington—Oil Land.**—John McKeown, of Washington, Pa., has leased 200 acres of land from Newton Beatty.

**Mannington—Oil and Gas Wells.**—C. P. Paine, Emmons Blaine, F. H. Smith and others have incorporated the Blaine Oil & Gas Co.

**Moundsville—Electric-light Plant.**—The Moundsville Electrical Co., lately reported, has awarded contract to the Fort Wayne Electric Co., of Fort Wayne, Ind., to erect an electric-light plant.

**Parkersburg.**—The C. D. Fewsmith Lumber Co. has been incorporated with a capital stock of \$2,200.

**Parkersburg—Oil Wells.**—The Belmont & Eureka Oil Co. and the Ohio River Oil Co. have been incorporated.

**Parkersburg—Electric-light Plant.**—The city council is considering the advisability of the city owning its own electric-light plant. The mayor can give information.

**Weston—Bridges.**—Contracts for building a bridge across the West Fork river and another over Freeman's creek have been awarded to the Youngstown Bridge Co.

**Wheeling—Pottery.**—The Warwick China Co. will, it is stated, build additional kilns to increase capacity 50 per cent.

## Building Notes.

**Alvord, Texas—Hotel.**—Thomas & Rolling are erecting a two-story brick building to be used for a hotel.

**Aiken, S. C.**—S. Ott, architect, is preparing plans for the erection of a schoolhouse to cost \$10,000.

**Atlanta, Ga.**—W. W. Goodrich & Son are reported as having prepared the following plans: For E. T. Gould, a residence to cost \$5,000; for L. F. O'Keefe, a residence to cost \$7,000; for H. W. Yarbrough, a residence to cost \$12,000; for the Third Presbyterian Church, a church to cost \$10,000; for the Home of the Friendless Association, a building to cost \$15,000.

**Atlanta, Ga.**—Bruce & Morgan have prepared plans for the erection of a building for the Agnes Scott Institute previously referred to; cost \$35,000.

**Atlanta, Ga.**—H. T. Phillips will erect, it is reported, a residence to cost \$6,000; Billups Phinzy will also build a residence to cost \$10,000.

**Atlanta, Ga.**—Hon. F. P. Rice will erect a residence; M. Lites is the builder.

**Atlanta, Ga.**—A. D. Adair, chairman building committee, will receive proposals until September 10 for the erection of the church previously reported as to be erected by the Second Baptist congregation.

**Baltimore, Md.**—Charles L. Carson, architect, is preparing plans for the building to be erected by the Baltimore Trust & Guarantee Co., lately referred to.

**Bardstown, Ky.**—W. B. Samuels & Co. will, it is stated, erect a warehouse.

**Bridgeport, Ala.**—O. M. Whitcher, of Boston, Mass., will, it is stated, erect a building to cost \$30,000.

**Bristol (P. O. Bristol, Tenn.), Va.**—The city council has ordered the issuance of \$50,000 of bonds to provide for the erection of a city jail, schoolhouse, etc.

**Bristol, Tenn.**—The city has decided by popular vote to issue \$2,000 of bonds for the purpose of providing for the erection of a school building.

**Brookhaven, Miss.**—It is reported that a school building to cost \$10,000 will be erected.

**Buchanan, Va.**—The Buchanan & Clifton Forge Building & Investment Co. has been chartered with a capital stock of \$300,000; J. Z. Shultz is president, and E. J. Brugh, of Fincastle, secretary and treasurer.

**Catlettsburg, Ky.**—R. R. Barton & Co. will, it is stated, erect a building to cost \$8,000.

**Charleston, S. C.**—Hotel.—John H. Devereaux has, it is said, prepared plans for improving Hotel Charleston, to cost \$15,000. Address E. M. Jackson.



Charlotte, N. C.—Shanks & Barrett, of Richmond, Va., are the lowest bidders for the plumbing in the U. S. public building.

Chester, S. C.—G. W. Adams, of Rock Hill, has, it is stated, secured contract for the erection of the town hall previously referred to. His bid was \$15,902.

Chipley, Fla.—Hotel.—The Chipley Hotel Co. has been incorporated to erect a hotel to cost \$10,000.

Colorado, Texas.—H. B. Smoot will receive proposals until August 20 for the erection of a two story brick club house, 40x80 feet. Plans can be seen at office of Burns, Walker & Co.

Danville, Va.—W. M. Poindexter, of Washington, D. C., is, it is reported, preparing plans for the erection of a school building to cost \$30,000.

Durham, N. C.—John F. Crowell, president Trinity College, writes that three buildings are to be erected for the college, two of which are to be 108x50 and 120x40 feet, respectively. Several residences will also be erected.

Dyersburg, Tenn.—Hotel.—Dr. Tucker is erecting an addition to his hotel, it is reported.

Fayetteville, Tenn.—Contract for erecting the Methodist church is reported as having been let as follows: Basement, of stone work, to Lewis Peach; brick work to A. W. Feeney & Co.; woodwork to W. A. Webb.

Flat Rock, N. C.—General Leigling will, it is said, remodel a dwelling to cost \$8,000. John H. Devereaux of Charleston, S. C., is reported to be the architect.

Florence, Ala.—The Liftwell Lumber Co. has, it is stated, received contract for the erection of eight double tenement houses for the Florence Cotton & Iron Co.

Front Royal, Va.—Hotel.—The Front Royal & Riverton Improvement Co. will at once erect a hotel.

Front Royal, Va.—The Front Royal & Riverton Improvement Co. will erect an office building.

Gadsden, Ala.—The Methodists are considering the erection of a new church to cost \$25,000. Rev. Thomas Armstrong can give information.

Galveston, Texas.—The Dickinson Loan & Improvement Co. has been incorporated by George Anderson, F. O. Bayland and others; capital stock \$100,000.

Goshen Bridge, Va.—The Goshen Bridge Investment Co. has been chartered with capital stock of \$100,000. W. L. Walters, Jr., of Staunton, is president, and J. A. Cooke, of Staunton, secretary and treasurer.

Goshen Bridge, Va.—Hotel.—C. L. Cooke, secretary Goshen Land & Improvement Co., will receive proposals until August 27 for the erection of a stone and brick hotel, previously referred to. Plans and specifications can be seen at the office of architects, Yarnall & Goforth, 14 S. Broad street, Philadelphia, Pa.

Greenwood, Miss.—An election will be held on September 1 to decide as to the issuance of \$30,000 of bonds to provide for the erection of a school-house.

Hampton, Tenn.—Hotel.—The Carriger residence will, it is reported, be remodeled into a hotel. Walter Ragsdale can give information.

Harrisonburg, Va.—Hon. C. T. O'Ferrall intends erecting a four-story building. W. M. Bucher is architect.

Henderson, N. C.—A. L. Melton, Asheville, has prepared plans for the erection of the Henderson county jail, to cost \$8,000.

Hendersonville, N. C.—The Richmond & Danville Railroad Co. (office, Richmond, Va.) will, it is reported, erect a station.

Jackson, Tenn.—The Jackson Brick Manufacturing Co. confirms the recent report that it has contract for constructing the Hurt block, and have sublet all contracts.

Key West, Fla.—A branch of the New South Building & Loan Association of New Orleans, La., has been organized with C. J. Huelsinkamp, president, and H. E. Mitchell, secretary.

Kimball, Tenn.—H. I. Kimball intends erecting a residence to cost \$10,000.

Kimball, Tenn.—Hotel.—S. M. Patton, Chattanooga, has prepared plans for the erection of a hotel and store building for the Kimball Town Co.; cost \$125,000.

Lynchburg, Va.—Contract is said to have been let for the erection of a new Methodist church.

Marion, N. C.—Hotel.—W. H. Floyd, of Chattanooga, Tenn., has completed plans for the hotel previously reported as to be erected by the Marion Hotel & Street Railway Co.

Maysville, Ky.—A branch of the Louisville Saving, Loan & Building Co. has been organized with John T. Martin, president, and Austin Holmes, secretary.

Memphis, Tenn.—E. Anderson has, it is reported, secured contract for the erection of the new infirmary lately referred to. F. R. McGeoy is the architect.

Meridian, Miss.—The Bonita Park Association will erect a number of buildings and construct a one-mile race track.

Middleburg, Fla.—The Roman Catholic congregation will, it is stated, shortly erect a church.

Middlesborough, Ky.—The Provident Building Association has been organized with a capital stock of \$25,000 by J. F. Grant, J. W. Forrest, Charles G. West and others.

Nelson, Ga.—Hotel.—The erection of a hotel to cost \$10,000 is talked of.

Newberry, S. C.—Bruce & Morgan, Atlanta, Ga., have prepared plans for a school building to cost \$6,000. J. K. P. Goggans, secretary Board of Trustees, will receive proposals until September 1st for the erection of the structure.

Opelousas, La.—James H. Windrim, supervising architect, Treasury Department, Washington, D. C., will receive proposals until August 28 for the erection of a courthouse and postoffice building, with the exception of heating apparatus.

Quanah, Texas.—Armstrong & Messer have, it is reported, secured contract to erect the courthouse previously reported.

Radford, Va.—The Radford Christian congregation has commenced work on its church.

Richmond, Va.—Contract has been let for the erection of a new church for the Grace Baptist congregation previously referred to; cost \$55,000.

Richmond, Va.—W. M. Poindexter, architect, Washington, D. C., has prepared plans for a dwelling for B. F. Moran to cost \$5,000.

Richmond, Va.—J. Tatnall Lee will, it is stated, erect a residence to cost \$10,000. G. W. Spooner & Son are said to have contract.

Richmond, Va.—Professor Dunnington intends erecting a residence to cost \$6,000—R. C. Vandergift & Son have contract; Mr. Smith, a residence to cost \$5,000—contract let to same persons.

Roanoke, Va.—G. W. Sisler can give information concerning the erection of a Methodist university, mentioned last week.

Roanoke, Va.—Carrie B. Daniel will, it is stated, erect a 3 story brick dwelling to cost \$5,000.

Shenandoah, Va.—The Shenandoah Valley Railroad Co. (office, Roanoke) will erect a passenger station, a freight depot and round-house.

Shenandoah, Va.—Hotel.—The Shenandoah Land & Improvement Co. is erecting the hotel previously mentioned.

Shenandoah, Va.—The Shenandoah Land & Improvement Co. is erecting an office building.

Tallapoosa, Ga.—Hotel.—S. M. Patton, Chattanooga, Tenn., has prepared plans for the erection of the hotel previously reported as to be built; cost, \$30,000.

Waco, Texas.—As a result of the failure of former contractors to fulfil engagements, the contracts for the erection of the building of the Provident Life Insurance Co. have, it is stated, been let as follows: To John Stone, for stone work; to J. K. Harrison, for brick; to T. B. Barton, for carpenter work and material.

Washington, D. C.—M. E. Meem will erect a dwelling to cost \$5,000; G. T. Wade, a three story dwelling to cost \$10,000; Wm. Stewart, an apartment house to cost \$10,000; W. J. Lewis, 12 dwellings to cost \$36,000; L. D. Meline, 2 dwellings to cost \$8,000; J. O. Clephane, a dwelling to cost \$8,000; Mrs. Macomb, a store and dwelling to cost \$10,000; plans have been prepared by A. Goerner & Co. for the erection of 4 dwellings to cost \$10,000.

Waynesboro, Va.—It is stated that the Ingalls Iron & Coal Co. will erect 100 dwellings. Address J. V. Umberger, general manager.

Wytheville, Va.—Hotel.—A. A. Campbell, secretary Jackson Park Hotel Co., will receive proposals until September 1 for the erection of the Jackson Park Hotel, previously referred to.

#### BURNED.

Alvarado, Texas.—The cotton gin of L. Norman.

Dyersburg, Tenn.—The stove and heading factory of the W. P. Hall Manufacturing Co.

Lexington, Ky.—The building of the Lexington Press, owned by H. T. Duncan.

Nicholasville, Ky.—The hemp factory of E. R. Sparks; loss reported about \$10,000.

Pablo Beach, Fla.—The Murray Hall Hotel, owned by John G. Christopher; loss estimated at \$200,000.

Rockwell, Texas.—The Morris Hotel.

Suffolk, Va.—The dry-kiln of the Suffolk Kindling Wood Factory; reported loss about \$10,000.

**MR. JOHN YANCEY, JR.,** president of the Old North State Land Co., Marion, N. C., under date of August 2, writes:

Inclosed find check for \$4.00. Please place same to our credit and keep the MANUFACTURERS' RECORD coming. We consider it the best advertising medium in the United States, and the United States is hard to beat.

Such is the testimony of the president of a land company which has tried many of the leading papers in the country.

## THE MANUFACTURERS' RECORD'S WORK ENDORSED.

NASHVILLE COMMERCIAL CLUB.  
NASHVILLE, TENN., August 5, 1890.

Allow me to congratulate you on the great assistance the MANUFACTURERS' RECORD has been in infusing new hope into that part of our common country which is so rich in undeveloped natural resources, where our people devote too much time to the discussion of old and fruitless questions, and too little to the real live economic questions of the day. As an exponent of the industrial progress of the South the MANUFACTURERS' RECORD stands at the head of the list, and as a political factor, by presenting new ideas and infusing confidence in our ability to accomplish the work before us—that of making the South the richest portion of the Union—you have turned our thoughts toward the sea of agricultural, industrial and commercial prosperity, and, to a large extent, our backs upon the unpleasant past. In this good work I wish you abundant success.

LOUIS T. BAXTER, President.

#### THE CHATTANOOGA & LOOKOUT MOUNTAIN RAILWAY CO.

PRESIDENT'S OFFICE, CHATTANOOGA, TENN., August 5, 1890.

I beg to say that, as a subscriber to your journal for more than three years, I have watched your course, so far as Southern investments were concerned, and that I am satisfied that you have contributed more than all other papers and parties to the present situation of affairs in the South. I think the South owes you a debt of gratitude which no time can ever pay. You certainly have marked with a prophetic eye the progress of this country. You defended the industries of the mineral districts, and supported the character of the people at a time when it seemed to hazard your interest to do so. You were laughed at for your position, but with a persistent eye of honesty you continued the fight, which I am free to say, in my opinion, has resulted in more good to the industrial section of the South than everything else that has been done and said by everybody else. Your persistent efforts have from time to time induced leading parties from various sections of the country to visit the South, and the result of their visit has been the conviction on their part that everything you said was true, and really that the half was never said by you. I think you deserve all the more credit for making the fight at a time when it really hazarded your interest to do so. If we could ever be able to serve you as you have served us, I believe the people of this section with one accord would heartily and willingly engage in the work. With the best wishes of one of your appreciative subscribers, I am

E. WATKINS.

#### THE EGYPT COAL CO.

EGYPT, N. C., August 4, 1890.

It affords me pleasure to endorse your valued publication, which is certainly entitled to much credit for the material progress made in this section during the past decade. By your untiring enterprise you have placed under obligation not only the entire Southern people, but also the great army of Northern and foreign investors who are realizing the importance of Southern resources.

SAMUEL A. HENREY, President.

#### THE FIRST NATIONAL BANK.

FLORENCE, ALA., August 9, 1890.

In the great struggle for commercial and industrial supremacy that now prevails in the South, one of the most noticeable features is the lack of newspapers or periodicals devoted exclusively to Southern development. The MANUFACTURERS' RECORD stands alone as the representative exponent of our interests and resources, and has been one of the most important factors in contributing to our present prosperity.

N. C. BLTING, Cashier.

#### CHARLESTON, CINCINNATI & CHICAGO RAILROAD CO.

BLACKSBURG, S. C., August 1, 1890.

I am pleased to express my appreciation of the value of your journal and of its success in the work you selected for it to do. The South owes you much, and more to your own than to any other publication. Your unselfish and unrestrained efforts for the good of the South have brought to it increased population, development and wealth, and those who have been influenced by you to come to this sunny clime find all as you had portrayed it. Such a record makes it reliable, causes it to be often referred to by seller and buyer—therefore a valuable advertising medium, and I am not surprised to see your advertising space so fully occupied. The reliable nature of the information contained in editorial and other columns makes it valuable and necessary to such as care to keep pace with the progress of this section of our country. This insures its success.

JNO. F. JONES, Supt. and Traffic Manager.

#### INTER-URBAN LAND CO.

ROANOKE, VA., August 8, 1890.

Your paper is invaluable to me. Every week I get something from its columns of practical value.

E. A. PARSONS.

CARTERSVILLE, GA., August 6, 1890.

The persistent efforts of the MANUFACTURERS' RECORD in bringing to the attention of the people of the North the vast undeveloped resources of the South has been of inestimable benefit to the whole region south of Mason and Dixon's line.

THE ETOWAH IRON CO.,

A. O. GRANGER, President.

WILMINGTON, N. C., August 6, 1890.

We have been readers of your journal for some time past. We desire to give expression to the fact that the MANUFACTURERS' RECORD is certainly deserving of patronage from the whole South. It is the best paper of its character that we know of to-day, and has done more probably than all other trade journals in placing the manufacturing advantages of the South before the country, and we can realize the tremendous influence exerted by your efforts towards continued Southern progress and industrial developments. We always regarded the MANUFACTURERS' RECORD as indispensable to any one who wishes to form an intelligent idea of the changes which are taking place in the South.

HANSEN & SMITH.

#### FIRST NATIONAL BANK OF LITTLE ROCK, ARK.

I am confident that there is no other periodical which approaches it in furnishing information of progress and opportunities in the South, and, with the vast untapped natural resources of this section of country, information concerning it must be of great value and interest in all sections of the country.

LOGAN H. ROOTS.

#### JOHN L. WILLIAMS & SON, BANKERS, RICHMOND.

We have found the MANUFACTURERS' RECORD full of valuable information and statistics. It is the foremost weekly publication of its kind in the country. The good it has done to the South, and to those whom it has attracted hither, in bringing money and muscle into this region, by publishing to the world the immense advantages which the South enjoys, it would be hard to estimate. We also prize the MANUFACTURERS' RECORD as an advertising medium.

JOHN L. WILLIAMS & SON.

#### THE NORTH TEXAS NATIONAL BANK, DALLAS, TEXAS.

For more than three years I have read the MANUFACTURERS' RECORD with pleasure and profit. The good work that it has done in giving correct information to the capitalists of the East regarding the wonderful possibilities of the South cannot be estimated. The South has the raw material and undeveloped resources; the East has the money with which these stores of unproductive wealth can be made available. Any agency that causes the co-operation of these two elements is of incalculable value to both.

HENRY EXALL.

#### FREDERIC TAYLOR & CO., BANKERS AND BROKERS, NEW YORK.

I consider the MANUFACTURERS' RECORD invaluable to every one interested in the South. My view has already been presented through your columns—that we shall see, during the next twenty-five years, a repetition in the South of the prosperity which the Northwest has enjoyed for the last quarter of a century; and as we now wonder at the marvelous increase in population and wealth which has taken place, at the great cities which have grown up, at the stupendous industries which have been created within the recent past in the West—so we shall one day, within the comparatively near future, be amazed at the changes in the South—at the phenomenal development of its varied resources and the enormous increase in its population and material riches. Of course, these changes will present the same opportunities which the West has so plentifully afforded for profitable investment, and the best way I know of to "keep track" of what is "going on," and posted as to the opportunities offering, is to take the MANUFACTURERS' RECORD.

FREDERIC TAYLOR.



## MORRISTOWN, EAST TENNESSEE

Morristown was a "way station" on the East Tennessee Railroad in 1858. Shortly after that time the construction of the C., C. G. & C. Railroad was begun, and Morristown was the central point on the line. It was then regarded as the most promising place in the great valley of East Tennessee for the building of a great city.

Lots were sold rapidly, and a number of houses were erected. The coming on of the war arrested the work of construction on the railroad and stopped all building in the town. After the war all the industries of the country were suspended, and the railroad from Charleston, S. C., to Cincinnati finally went into the hands of the East Tennessee, Virginia & Georgia Railroad Co. and Morristown's hopes seemed to be blasted.

Notwithstanding this, about 1882 there came a gradual revival of business, and a spirit of enterprise begun to manifest itself. From that time until now the influx of population has been steady, capital has gradually increased, manufactories have been built, and the town has, without any effort or boom, grown almost to the proportions of a city.

It now has an actual population of over 4,500, has three banks, two of the largest commercial flouring mills in the State, stove works, an agricultural implement factory, wagon factory and other industries of lesser note, two good hotels, five commodious brick churches and a splendid system of graded schools. It is lighted with electricity, and a system of water works is under construction to supply it with an absolutely pure spring water.

The C. C., G. & C. Railroad has been completed south to a connection with the Carolina system of railroads, and the Morristown & Cumberland Gap Railway, to connect us with the Kentucky system at Cumberland Gap and Middlesborough, is now under rapid construction and will be completed by the 1st of April, 1891. With the completion of this road Morristown will have railway transportation advantages and facilities equal to those of any point between Chattanooga and Washington city. Among its resources and advantages the following may be enumerated:

**Marble.**—The town is actually built upon the great East Tennessee marble belt. The marbles that underlie and surround the town embrace almost every variety of the celebrated East Tennessee variegated marbles, and in addition thereto a pure black marble, the only pure black marble heretofore discovered in the United States.

**Iron.**—Immediately on the south side of the town, and approaching within half a mile of the corporate limits, is a bed of exceptionally rich and pure brown hematite ore, 56 per cent., with less than .01 per cent. of phosphorus. This bed extends six miles, and contains almost incalculable quantities of ore.

On the north side of the town, and at a distance of about  $3\frac{1}{2}$  miles, is a bed of semi-magnetic solid red ore, yielding 67 per cent of iron, with less than .01 per cent. phosphorus. The extent of this bed is not known.

At varying distances, but within easy reach by the railroads now in operation and under construction, are vast bodies of brown ore, and at least one immense vein of specular ore.

In this connection it may be remarked that the limestones and marbles for fluxing are all around the town as cheap and as plentiful as dirt.

**Manganese.**—Within three miles on the northwest are immense bodies of manganese ore, 67 per cent. The lead has been traced for a number of miles, and the quantity is said to be equal to any demand that may be made upon it.

**Lead and Zinc.**—Ten miles south of the

town and on the C., C. G. & C. Railway lead and zinc mines are now being worked, and the outcrop of both these ores are found in the immediate neighborhood, but no actual prospecting has been done.

**Antimony.**—A vein of native antimony that is pure antimony is said to have been discovered within five miles of the town.

**Clays.**—A most excellent fire-clay is found in vast quantities very near the town, and the red clays of the town itself make a most beautiful and durable brick.

**Ochres.**—Ochres and ochreous slate suitable for the manufacture of a cheap but durable paint exist in almost unlimited quantities.

**Roofing Slate.**—A roofing slate which Mr. Thomas P. Williams, M. E., pronounces superior to any roofing slate in America, exists in vast quantity, and it is most favorably situated for easy and inexpensive quarrying.

**Timbers.**—All the timbers indigenous to the temperate zone are contiguous and accessible to Morristown.

**Water Power.**—The Tennessee river, which flows at the base of the plateau on which the town is built, affords a practically unlimited water-power, while the creeks that flow down from Bay's mountain to the river through the town and near it furnish a succession of sites for factories with abundant power.

**Climate.**—It would be difficult to find a spot in the United States possessing superior climatic conditions and advantages.

It is located on a plateau of Bay's mountain, nearly equi-distant from the Cumberland mountain range on the north and the Alleghany range on the South. Through the town a small creek flows rapidly down to the Tennessee river. The business houses and manufacturing establishments are built along the creek, and the principal railway depot—East Tennessee, Virginia & Georgia—is also located here; hence, at first view to a stranger, the town appears to be in a valley. From the bed of this creek the ground rises in gentle slopes, affording easy grades for streets, a perfect natural drainage, and view of surpassing beauty.

The railroad track at its lowest point is 1,284 feet above sea level, and the surrounding elevations reach an altitude of 1,934 feet. The lofty and numerous mountain ranges on the north, rising, some of them, to an altitude of 4,000 feet, break and turn aside the little blizzards that sweep down from the North in winter, while those on the south, rising to an altitude of 6,000 feet, send down cooling breezes in the summer time that temper and modify the heat, so that the thermometer rarely falls below zero in the winter, and rarely rises above 90° in summer. Out-door work can be continuously carried on with comfort both in winter and summer.

**Healthfulness.**—On account of its superior climatic advantages, its fine elevation and the perfect natural drainage which it has, Morristown is a most healthful place. Malaria is practically unknown.

**Soils.**—The geological strata have been continuously but irregularly disturbed across the entire region known as the valley of East Tennessee.

This great valley of East Tennessee, being that extensive area comprehended between the Cumberland mountains on the northwest and the Alleghany mountains on the southeast, the Virginia line on the northeast and the Georgia and Alabama lines on the southwest, about 90 miles wide and 200 miles long, is made up of a series of lesser mountain ranges and intervening valleys—a congeries of corrugations.

These disturbances have brought to the surface at different points, and frequently in long parallel ridges or depressions, nearly if not all the rocks of the later geological periods, and some of the primal rocks.

These rocks, presenting almost infinite varieties and blendings, disintegrating in obedience to the laws and under the opera-

tion of the forces of nature, have formed clays and soils even more varied than the rocks from which they are derived. Therefore we have soils extremely fertile, soils moderately fertile, and soils that are thin and light, corresponding to the rocks from which they were derived.

**Productions.**—Because of the almost infinite variety of soils surrounding the town, and because of the moderate and equitable character of the climate, everything that is grown in the temperate zone, save a few sub-tropical fruits, can be and is produced here in abundance and in perfection.

The alluvial lands produce marvelous crops of corn, potatoes, melons, etc. The stiff red clay soils are excellent for the grasses, wheat, rye, etc., and also produce good crops of corn, oats, etc.

The light clays cannot be excelled for fruits, berries, etc., and they also produce fair crops of cereals: The cherry ridge lands produce the finest tobacco, and this crop is in the last few years becoming a staple and one of the most profitable crops grown.

**Character of Citizens.**—The population of Morristown is composed almost exclusively of native-born Americans, and for intelligence, sobriety and peacefulness will compare favorably with any community of equal numbers in the United States.

Among the active business men of the town the following States are represented: Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Michigan, South Dakota, Virginia, North Carolina, South Carolina, Georgia; all are prosperous and delighted with the Plateau City of the great valley.

**Investments.**—When the varied and, indeed, remarkable resources of Morristown are considered, its climatic advantages, its healthful and beautiful location, its transportation facilities, it must be apparent that few points present so many attractions and such indubitable assurances of immediate and gratifying profits for the investment of capital.

Here there is no monopoly of anything. The unimproved real estate in and adjoining the town does not belong to a single individual or corporation. The mineral ores, marbles and timber lands are yet in the hands of original owners. Hence, properties of every kind can be purchased at fair prices, with the comfortable assurance that values will constantly and rapidly increase. Here there has been no "boom," but a steady, constant and gratifying upbuilding. The new line of railroad to be completed in April next, on which some 1,500 men are now at work, will give Morristown a third and competing line to the coal fields, and make it the most available and desirable point in the South for the manufacture of steel, her iron ores being especially adapted to that purpose. But her future will not depend on iron and steel alone, and in this she possesses an immense advantage. She is marvellously rich in manganese, in marbles, in ochres and ochreous slates, in clays suitable for the manufacture of pipes, tile, fire-bricks, &c., in lead and zinc, in timbers and in agricultural and horticultural products. When iron is depressed the manufacture of and trade in her other elements of wealth will give employment to a large population.

Her population by natural growth has increased nearly 300 per cent. in the last 10 years, and she has added over 300 per cent. to her capital.

As the new railroad nears completion it may be expected that values will advance, and that more or less excitement will be evoked, but the real estate owners will not be likely to advance prices materially. They are too numerous, and the spirit of competition among them will naturally keep prices within the bounds of reason.

All things considered, this is now one of the most promising places in the South for safe and profitable investments in real estate, for the establishment of manufacturing industries and for the prosecution of legitimate business in general trade.

O. C. KING.

## MACHINERY WANTED.

**Boiler.**—Turlington & Codrington, Macon, Ga., will want a 50 horse-power boiler.

**Boiler and Engine.**—William C. Jacob, Wellsburg, W. Va., wants prices on a 75 horse power boiler and engine.

**Boiler and Engine.**—E. M. Henry & Co., Norfolk, Va., want an 80 horse power boiler and 50 horse power engine.

**Boiler and Engine.**—N. Mackey, San Antonio, Texas, wants a 40 horse-power boiler and 30 horse power engine.

**Boiler and Engine.**—Fosgate & Lane, Auburn, N. Y., will want a 48 inch by 14 feet tubular boiler and 12x16 or 20-inch engine.

**Belting, Pulleys and Shafting.**—Cater Bros., Milton, Fla., want prices on belting, pulleys and shafting.

**Belting, Pulleys and Shafting.**—W. H. Morris, Birmingham, Ala., will purchase belting, pulleys and shafting.

**Brick Machinery.**—W. S. Slaughter & Bros., Port Hudson, La., want small machinery for manufacturing brick.

**Cars.**—Beard & Brandon, Meridian, Miss., will purchase cars for dummy line.

**Clay-working Machinery.**—The Morgan Iron Works, W. A. Edwards, superintendent, Spartanburg, S. C., is in the market for clay-working machinery.

**Coffin and Furniture Factory.**—W. H. Morris, P. O. Drawer 382, Birmingham, Ala., will purchase some machinery for a coffin and furniture factory.

**Coke Ovens.**—The Louisville Coal & Coke Co., Flipping, W. Va., desires bids for the construction of 25 additional beehive coke ovens.

**Creamery.**—H. P. Chambers, Federalsburg, Md., desires estimates on machinery for a butter-making plant; also for cheese factory.

**Dummy Engines.**—Beard & Brandon, Meridian, Miss., will purchase engines for dummy line.

**Edger, Trimmer, &c.**—Turlington & Codrington, Macon, Ga., will want an edger, trimmer, iron rollers, etc., for a saw mill.

**Electrical Railroad.**—The Real Estate, Loan & Building Co., Savannah, Ga., wants to purchase supplies, equipment, etc., for electrical railroad.

**Electric Light Plant.**—Charles E. Walker, Greensboro, Ala., wants bids for furnishing an electric light plant.

**Electric Light Plant.**—The Buckannon Electric Light Co., Buckannon, W. Va., will purchase an electric light plant.

**Flour Mill.**—G. M. Brown, Woodville, Va., wants prices on a short system flour mill.

**Flour Mill.**—J. A. Davidson, Gibsonville, S. C., is in the market for a general line of flour mill machinery.

**Foundry and Machine Shop.**—The Morgan Iron Works, W. A. Edwards, superintendent, Spartanburg, S. C., is in the market for complete outfit for foundry and machine shop.

**Foundry and Machine Shop.**—A. H. Lokvell, Rome, Ga., wants a complete outfit for a foundry, also engine, lathes, planers, shapers and upright drills for machine shop.

**Furniture Factory.**—T. L. Liles, Cheraw, S. C., wants correspondence regarding machinery for a furniture factory.

**Furniture Factory.**—E. M. Henry & Co., Norfolk, Va., want prices on planer, sand belt, boring, mortising, rabbeting and band saw machines, circular saws, two drills and other machinery for a furniture factory.

**Glass Factory.**—Hunter & Rigby, Montgomery White Sulphur Springs, Va., want estimates on the construction of a 10-pot glass factory.

**Howe Truss.**—Beard & Brandon, Meridian, Miss., will purchase an 80-foot Howe truss.

**Ice Machine.**—The Richland Manufacturing Co., Limited, Rayville, La., wants a 5 ton ice machine complete.

**Ice Machinery.**—E. S. Maunsell, 30 Carondelet street, New Orleans, La., desires to correspond with manufacturers of ice machinery.

**Knitting Machinery.**—H. E. Anderson, 51 Carondelet street, New Orleans, La., desires to correspond with manufacturers of machinery for making hose.

**Laundry.**—W. E. Fuller, Perry, Ga., wants machinery for a steam laundry.

**Laundry.**—W. T. Christopher, Montezuma, Ga., wants prices on steam laundry machinery.

**Pottery.**—N. Mackey, San Antonio, Texas, will purchase machinery for a pottery, including clay crusher, sewer-pipe machinery, etc.

**Pulleys.**—Box 385, Atlanta, Ga., wants catalogues and prices of wood pulleys for transmitting power by rope.

**Rails.**—Beard & Brandon, Meridian, Miss., will purchase steel rails for dummy line.

**Rails.**—The Real Estate, Loan & Building Co., Savannah, Ga., wants prices on rails, etc., for electrical railroad.

**Saw Mill.**—&c.—F. H. Foster, 306 Stock Exchange, Chicago, Ill., wants a pony saw mill plant and a spoke and hub machine.

**Saws.**—Cater Bros., Milton, Fla., want prices on large circular and shingle saws.

**Vitrified Paving Bricks.**—The District commission, Washington, D. C., will receive proposals until August 28 for furnishing 400,000, more or less, vitrified paving brick.

**Water Works.**—F. G. Stacy, Gaffney City, S. C., wants bids for the construction of water works.

**Water Works.**—Bids will be wanted by M. Oppenheimer, mayor, Trenton, Tenn., when specifications are completed.

**Woodworking Machinery.**—Whited, Wheelless & Williams, Shreveport, La., are in the market for a special fast feed floorer, resaw, rip saw, molder, blower, etc.



# Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &amp;c.

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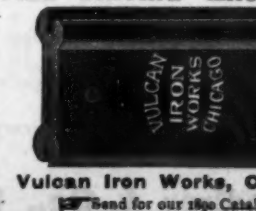
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 Plans, Specifications and Superintendence for the Construction, Equipment and Organization of Cotton, Woolen, Worsted and other Textile Mills.

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 Plans executed for the best modern mill construction. Especial attention given to arrangements of power plants, shafting, etc.

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 Water Works, Sewerage, Electrical Works and Municipal Improvements.  
 Richardson Block, CHATTANOOGA, TENN.

**KNOXVILLE, TENN.**  
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**WRIGHT & WOOD,**  
**Civil & Sanitary Engineers.**  
 Sewerage, Drainage, Water Supply, Municipal Work, Surveys, Estimates, Specifications, Superintendence. J. C. WRIGHT, C.E.  
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**PILE DRIVING MACHINERY.**

**VULCAN IRON WORKS**  
 CHICAGO  
 Vulcan Iron Works, Chicago.  
 Send for our 1890 Catalogue.

### WANTS.

**WANTED.**—A well-experienced Superintendent for a three-press cotton-seed oil mill. Address with references as to competency and reliability, stating salary wanted by year and by season, E. V. ZOELLER, Secretary and Treasurer, Tarboro, N. C.

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**WANTED.**—A man with capital to join in opening up a salt well situated near Cumberland Gap & Knoxville R. R. A fine opportunity for the right man. Careful investigation invited. For particulars, address A. M. CLOUD, Springdale, Tenn.

### WANTED.

### PLANS FOR MILLS.

 Saw Mill, Cotton Mill and Oil Mill Millwrights, send us your best, full and specific plans and drawings for the above-named mills and approximate time for erection of same. We have many enquiries for millwrights. Address **MARINETTE IRON WORKS CO.,** Saw Mill and Mining Machinery, Atlanta, Ga.

### A BARGAIN.

**FOR SALE** at one-half of its real value, a complete outfit of Planing Mill, **SASH, DOOR AND BLIND MACHINERY,** Including 35 horse-power engine and boiler, with everything necessary for a first-class establishment. Second-hand but in good condition. Address **L. S. COLBURN,** 87 Prospect Street, Cleveland, Ohio.

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#### 17-ft. WET PAN.

Nearly new. Built by Peter Wilks, Trenton, N. J. Machine in good order and can be bought cheap. Address

**STEVENS BROS. & CO.**  
 Stevens Pottery, Ga.

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**A PORTER-ALLEN**  
**High Speed Automatic Engine.**

 50 H. P. Cylinder 8x16 inches.  
 Used short time in United States Mint. Equal to new. No finer engine built suitable for electric lighting. At a bargain. Address

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 One 40 H. P. Horizontal Steam Engine, (second-hand). One 60 H. P. Horizontal Tubular Boiler, (second-hand). New Engines and Boilers on hand and built to order. One S. H. Steam Pump, one S. H. Steam Hammer, **PULLEYS, HANGERS & SHAPING.** 109 to 108 E. York St., Baltimore.

Edwin F. Partridge, Pres.; Jos. W. Hawley V.-Pres.; H. Bayard Hodge, Sec.; Wm. S. Perot, Jr., Treas.; Jos. S. Keen, Jr., General Manager.

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 Phipps' Hydraulic Pipe a Specialty.  
 Engineers & Contractors for Water Works.

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**Complete Blast Furnace Plants.**  
 Acid or Basic Bessemer and Open Hearth Steel Works.

 Plans, Specifications, Estimates and Superintendence of Construction.  
 Technical Reports on Machinery and Manufacturing Processes.  
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**Analytical & Consulting Chemists.**

 Chemical Analysis of Iron Ore, Pig Iron, Steel, Limestone, Coal, Mineral Waters, Fertilizers, &c. Physical Tests of Iron, Steel and other Building Materials and Lubricating and Illuminating Oils, etc. Examination of Mining Properties.  
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 Chemical Investigations, Analyses of Ores, Slags, Coals, Waters, &c. Reports on Mineral Properties, &c. Correspondence solicited.

**RATTLE & NYE,**  
**Analytical Chemists,**  
**METALLURGISTS,**  
 AND  
**Mining Engineers,**  
 CLEVELAND, O.

### PROPOSALS.

**STEAM HEATING.**—Proposals invited for complete set steam heating apparatus for public schools for city of America, Ga. Plans of buildings (now in course of erection) can be had on application to G. L. Norman, Architect, Atlanta, Ga., or to undersigned in this city. **URIAH B. HAROLD,** Chairman Building Com.

**NOTICE TO CONTRACTORS.**—Sealed bids will be received by the Board of Water Commissioners of Gainesville, Ga., for the construction of a complete system of water works for said city. The work will include the construction of a supply well, standpipe, the furnishing of engines, boilers, pumps, pipes and all other necessary appliances to complete a first-class system of water works. Plans and specifications may be seen in the Council Chamber of the city. All bids will be opened and the contract awarded on the 26th day of August, 1890, at 12 o'clock noon. The right is reserved to accept or reject any or all bids. Bids may be made for the whole water works complete or for any given part or class of the work. Address all bids and other communications to E. F. CHAMBERS, Clerk Water Commission, Gainesville, Ga.

**NOTICE TO WATER SUPPLY COMPANIES.**  
 Bids for the above-specified materials, i. e. b. cars, Gainesville, Ga., will be received by the undersigned, J. G. LONGSTREET, Civil Engineer for Local Construction Company, bidders. **CLARK, BELL & CO.,** Purchasing Agents for Local Construction Company, bidders.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 26th day of August, 1890, for all the labor and materials required for the marble work, &c., for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for the Marble Work for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa.," and addressed to JAS. H. WINDRIM, Supervising Architect. July 31, 1890.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 26th day of August, 1890, for all the labor and materials required in the erection and completion of the United States Courthouse and Postoffice building at Opelousas, La. (except heating apparatus) in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for the Erection and Completion (except heating apparatus) of the U. S. Courthouse and Postoffice building at Opelousas, La.," and addressed to JAS. H. WINDRIM, Supervising Architect. August 2d, 1890.

**PROPOSALS WANTED.**—Up to 12 o'clock August 30, 1890, proposals will be received for the erection of a new Courthouse in Spartanburg City, South Carolina. Proposals will be sealed and directed to Joseph M. Elford, county commissioners clerk, Spartanburg, South Carolina, marked Proposal for New Courthouse. Proposals will be for the furnishing of materials, except as modified herein and building the entire structure complete, according to plans and specifications. The right is reserved to reject any or all proposals and to waive formalities. The successful bidder will be required to give bond to the full amount of the contract, and to enter upon the work immediately after the perfection of contract, bond, &c. Payments will be made in cash as follows: 25 per cent of the value of the work done and put in place in the building in an acceptable manner, as the work proceeds. Plans and specifications can be seen and all necessary information can be had at the office of the clerk of the county commissioners, Spartanburg, S. C., or McDonald & Bros., architects, Louisville, Kentucky. All information, or work, or materials indicated by the drawings and not shown in the specification or vice versa, will be performed as fully as if laid down in both. Should any part of the drawings and specifications conflict with other parts, contractor will make report to the architect, and get instructions as how to proceed. Each contractor is expected to read over the entire specifications; this also applies to sub-contractors. By order of the Board of County Commissioners, held at Spartanburg July 28th, 1890. **CHAS. A. BARRY,** Chairman of Board.  
**JOSEPH M. ELFORD,** Clerk of County Com'rs, Spartanburg, S. C.

**NOTICE TO CONTRACTORS.**—Sealed proposals will be received by the Commissioners appointed for the purpose by the County Court of Monongalia County, West Virginia, at the office of the Clerk of the Circuit Court, in Morgantown, in said county, until 12 o'clock noon of Monday, September 1, 1890, for the labor and material and the construction and completion of a Courthouse at Morgantown, West Virginia, in accordance with the drawings and specifications furnished by John C. Fulton, Architect, copies of which may be seen at this office after the 5th day of August, 1890. All bids must be made upon the printed forms to be obtained from this office in a sealed envelope, directed to the undersigned and marked "Proposals for Courthouse at Morgantown, W. Va.," &c. As an evidence of good faith every proposal shall be accompanied by cash or certified check to the amount of three hundred dollars (\$300), made payable to the County Court of Monongalia County, in case the successful bidder shall fail for ten days after an award to execute the required contract and bond for the faithful performance of the terms of the contract. The checks of unsuccessful bidders will be returned to them immediately after the contract is awarded or all bids rejected. The right is reserved to reject any and all bids. Bidders are requested to be present at the opening of proposals. Morgantown, on the Monongahela river, may be reached by E. & O. R. R. or from Pittsburgh by daily line of steamboats. **R. E. FAST,** Secretary of Commissioners.



**For Sale.****Railway Equipment**

If interested send for our Catalogue No. 13, just issued, of Locomotives, Cars, &c., of every description, for all kinds of work.

**A. S. MALES & CO.,**  
15, 16 and 17 Astor Building, Cincinnati, O.

**Railway Equipment.  
REGINALD CANNING & CO.**

115 Broadway, New York.  
Have on hand for sale all kinds of SECOND HAND ROLLING STOCK.

Established 1855.

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Late the George Place Machinery Co.  
Equipment of Railway and Car Works  
EQUITABLE BUILDING,  
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**CARLISLE MFG. CO.  
Cars, Engines, Frogs  
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CARLISLE, PA.****FOR SALE.**

18-Ton, Saddle Tank, Standard Gauge

**LOCOMOTIVE.**

10x20 in. cylinders, 42 in. drivers, steam brake, recently received general overhauling, with new fire-box, new flues, etc. Ready for immediate service. Apply to

**E. H. WILSON & CO.,**  
222 S. Third St., Philadelphia, Pa.

**Steam Fire Engines  
FOR SALE.**

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

**Lowell Steam Boiler Works,  
LOWELL, MASS.**  
Estimates given on New Work of every description.

**FOR SALE CHEAP.**

Second-Hand  
**HAZLETON TRIPOD BOILERS**  
of 300 horse-power each. Address  
**SWIFT & CO., Station A, Kansas City, Mo.**

**FOR SALE.**

Five Single Surfacers. Three Double Surfacers.  
Three eight-inch Matchers (four-sided).  
Two fourteen-inch Matchers (four-sided).  
Two twenty-four-inch Matchers (three-sided).  
ALL SECOND-HAND. Send for full list to  
**THE PREBLE MACHINE WORKS CO.**  
88 & 40 W. MONROE ST., CHICAGO, ILL.

**FOR SALE.**

- 1 20-in. swing Engine Lathe, 14-ft. bed.
- 1 14-in. swing Engine Lathe, 7-ft. bed.
- 1 15-in. Crank Shaper.
- 1 24-in. B. G. Drill Press.
- 1 Water Grinder.
- 1 28 in. x 28 in. x 7 ft. Planer.

All the above are NEW and will be sold at a BARGAIN. Write for our complete catalogue.

**THE SEBASTIAN-MAY CO.**

182 W. Second St., Cincinnati, O.

**Second-Hand Machinery Cheap.**

- 1 Six-inch 3-side Moulder, S. A. Woods make.
- 1 Mortiser and Borer, S. A. Woods make.
- 1 24-in. x 20 ft. Engine Lathe.
- 1 24 in. x 20 ft. Eng. L. with end face plate & rest.
- 1 20 in. x 18 ft. Engine Lathe, triple geared.
- 1 10 in. x 3 ft. Traverse Shaper. Sellers.
- 1 Brown & Sharpe No. 1 Universal Miller.
- 1 Brainard No. 3 Universal Miller.
- 1 No. 2 Lincoln Pattern Miller.
- 1 400-lb. Drop Hammer. 1 800-lb. Drop Hammer.
- 1 No. 7 Root Blower. 1 No. 3 Sturtevant Exhaust.
- 1 35 in. x 12 ft. Chucking Machine.
- 1 Set 10 in. x 6 ft. Boiler Makers' Rolls, power.

Write us for what you want and send description of Machinery that you have to trade or sell.

**THE J. A. MACKINNON MACHINERY CO.**  
22 Warren Street, New York.

**Bargains in Machine Tools.**

We have the following Machine Tools, taken mostly in exchange for those of our own manufacture. We will sell them low.

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- 4 10-in. x 2 ft. P. & W. Bench Hand Lathes. G Order.
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- 1 12x5 Star Hand Lathe. New.
- 1 18x6 Lathe. New.
- 1 18x8 Star Tool Co. Lathe. Good Order.
- 1 17x8 New Haven Lathe.
- 1 18x7 L. & M. Lathe. Good Order.
- 1 20x8 Ames Lathe. Good Order.
- 1 20x8 Engine Lathe. Good Order.
- 1 20x13 Harris Lathe. Fair Order.
- 1 24x16 Curtis Lathe. Fair Order.
- 1 26-in. Stevens Pulley Lathe. Fair Order.
- 1 40x20-in. Lathe. Fair Order.

**PLANERS—Second-hand.**

- 1 10-in. Traveling Head Shaper. Good Order.
- 1 15-in. Hendey Shaper. Good Order.
- 1 20-in. Smith & Co. Shaper. Nearly New.
- 1 Planer 24x24x4. Good Order.
- 1 Planer 36x9x6.

**MISCELLANEOUS—Second-hand.**

- 1 Hendey 3 Spindle Drill Press. Good Order.
- 1 60-in. H. & J. Radial Drill Press. Good Order.
- 1 24-in. Drill Press. Good Order.
- 1 34-in. Drill Presses. Good Order.
- 1 35-in. B. G. Drill Press. Good Order.
- 1 Blacksmith Drill Press. Good Order.
- 1 Standish Foot-Power Hammer. New.
- 1 No. 63 Ferracute Punch & Shear. A No. 1 Order.
- 1 Knight Punch and Shear (Comb).
- 1 12-in. Bement Slotter. Good Order.
- 1 Natl. Double Head Bolt Cutter. A No. 1 Order.
- 1 Emery Grinder and Stand. Good Order.
- 1 No. 2 Sturtevant Exhaust Fan. Good Order.
- 1 No. 1 Sturtevant Noiseless Blower. Good Order.
- 1 Small Steam Hammer.

Write for Prices.  
New additions constantly made to this list.  
Complete estimates made on outfits.

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Cincinnati, Ohio.**

Manufacturers of Engine Lathes, Shapers, Upright Drills, etc. Dealers in Iron and Brass Working Machinery.

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**BARGAINS—Second-hand Machinery, Good Condition.—L. F. SEYFERT'S SONS, Nos.**

- 437, 439, 441 N. Third Street, Philadelphia, Pa.
- 1 100 h.p. Horiz. Engine, cyl. 18x36 in. Rickards.
- 1 75 h.p. Horiz. Engine, cyl. 16x24 in. Rickards.
- 1 25 h.p. Lidgerwood Hoisting Eng., cyl. 10x12 in.
- 6, 8, 10, 15 & 20 h.p. Portable H.-isting Engs, single & double cyl. & drum. Combined & single.
- 1 15 h.p. Geiser Traction Eng. & Boiler on wheels.
- 1 12 h.p. Agricultural Engine & Boiler on wheels.
- 1 h.p. Agricultural Engine & Boiler on wheels.
- 40 & 50 h.p. Hor. High Speed "Southwark" Aut. Cut-off Engines. 1 Trip Hammer.
- 1 80 h.p. R. T. Boilers, 60"x16" (52) 4" tubes. 100 lbs.
- 1 65 h.p. R. T. Boilers, 56"x14" (67) 3" tubes.
- 2 25 h.p. R. T. Boilers, 42 in. x 10 ft. (28) 3 in. tubes.
- 1 8 h.p. Locomotive Boiler, (23) 2 in. tubes.
- 50 Upright Tub. Steel Boilers, 4 to 40 h.p., cheap.
- 1 Phila. Hyd. Wks. Steam Pump, 2 1/2 in. discharge.
- 2 Phila. Hyd. Wks. Steam Pump, 2 in. disc. arse.
- 1 Britton & Henders Steam Pump, 2 in. discharge.
- 1 Berry & Orton 35 in. Band Saw, tilting table.
- 1 L. Powers 16 in. Jointer. Please write for prices.

**SECOND-HAND MACHINERY.**

- 1 Iron Planer, planes 10 feet long, 52x48 in. 4 feet 25x24 in.
- 1 Iron Pl., planes 8 ft. long, 38 in. x 36 in. Sellers, 2 hds.
- 1 Engine Lathe, 20-ft. bed, 72-in. swing. Good.
- 1 Engine Lathe, 10-ft. bed, 20-in. swing. Good.
- 1 Engine Lathe, 15 feet bed, 28 inch swing.
- 1 " " " 8 ft. bed, 20 in. swing, N.Y.S. E. Co. make, and various other sizes.
- 1 Small Turret Head Lathe.
- 1 30 inch Plain Drilling Machine.
- 1 25
- 1 Betts 50-in. Horizontal Boring Mill.
- 1 6 1/2 in. Slotter, automatic feed.
- 1 30-lb. Bradley Cushioned Hammer.
- 1 50 lb.
- 1 Power Alligator Shears, small.
- 1 No. 5 Stiles & Parker Press, A1.

Send for list Second-hand tools.  
**NEW YORK MACHINERY DEPOT,**  
Brooklyn Bridge Store, 16, New York.

**Second-Hand MACHINERY in Good Order  
FOR SALE CHEAP.**

- Engine Lathes—62 in. x 17 ft.; 42 in. x 12 ft.; 32 in. x 12 ft.; 29 in. x 15 ft.; 24 in. x 10 ft.; 22 in. x 8, 10 and 12 ft.; 20 in. x 8 and 14 ft.; 15 in. x 6 and 8 ft.; 1 each 24 in. x 20 in. and 24 ft.; 24 in. x 12 ft.; 24 in. x 15 and 18 ft.; 18 in. x 10 ft.; 20 in. x 10 ft.; 12 ft. 1 each 16 in. x 6, 8 and 10 ft.; 6 each 14 in. x 6 ft.; 1 12 in. x 5 ft.; 2 each 11 in. x 4 ft. and 5 ft.; 1 10 in. x 3 1/2 ft., foot power.
- 1 each Planer, 24 in. x 24 in. x 5 and 8 ft.
- 1 each Planer, 30 in. x 30 in. x 8 ft.
- 1 Planer, 54 in. x 52 in. x 12 ft., 50 in. x 50 in. x 17 ft.
- 1 Planer, 40 in. x 40 in. x 14 ft.
- 1 Planer, 42 in. x 42 in. x 10 and 12 ft.
- 1 Planer, 22 in. x 20 in. x 4 and 5 ft.
- 1 Planer, 16 in. x 16 in. x 3 ft.
- 1 Planer, 42 in. x 42 in. x 12 ft., with two heads.
- 1 Planer, 50 in. x 50 in. x 17 ft., with one head.
- 1 Planer, 100 in. x 100 in. x 18 ft., with two heads.
- 1 Engine Lathe, 22x22 ft., good order. Niles.
- 1 New Horizontal Boring Machine, with facing attachment, Newark Machine Tool Co., makers.
- 1 24x18x4-foot Planer. Ames.
- 1 Drop Hammer, 75 pounds.
- 1 48-in. Radial Drill.
- 1 Shaper each 6, 10, 12, 15, 20, 24 and 30-in. strike.
- 3 Crank Planers. 6 Lincoln Pat. No. 2 Millers.
- 1 Universal Miller. Brown & Sharpe.
- 1 each 2, 3, 4 and 6 Spindle Gang Drill.
- 1 each Nos. 1, 3, 4 and 5 Screw Machines.
- 1 each 40 and 60 pound Vertical Hammers.
- 1 No. 53 Ferracute Press. 1 Nut-facing Machine.
- 1 No. 24 Fowler Press.
- 10 Foot Presses, assorted. 8 Power Presses, ass'd.
- 12 Punching and Shearing Machines, assorted.
- 2 Return Tubular Boilers, 35 horse-power.
- 1 Bolt Cutter, each 1/4 in. to 1 in., and 1/2 in. to 2 in.
- 1 No. 1 Hand Millers. Pratt & Whitney.
- 1 Horizontal Engine each 25 and 45 horse-power.
- 1 Horizontal Boring Machine, 36 in. x 26 ft.
- 1 each 8 and 13-inch Slotters. Correspondence
- 1 Power Mortising Machine. solicited.
- Also full line of New Machinery.
- PRENTISS TOOL & SUPPLY CO.**  
P. O. Box 3, 125 Liberty St., New York City.

**THE NEW YORK RAILWAY SUPPLY CO., Limited,  
40 and 42 Wall Street, New York.****Steel Rails and Railway Equipment**

of all descriptions, for Cash or on the Car Trust Plan.

**COMPLETE OUTFITS FOR ALL CLASSES OF RAILROADS,**

Steam, Electric, Horse, Logging, Coal and other Commercial Roads at the lowest market prices and most favorable terms. Correspondence solicited from all new and old enterprises.

**BOILERS, ENGINES, STEEL RAILS**

**LIGHT LOCOMOTIVES, RAILS and EQUIPMENT,**

Cotton Gins, Saw Mills, Wood - Working Machinery, and Heavy Hardware.

**F. A. ESTEP.**

OFFICE AND WAREHOUSE:  
Corner Market and Cowart Streets,  
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**STEEL RAILS**

And Track Material complete for Logging and Mining Roads and Industrial Enterprises on the

**Instalment Plan.**

Payment, cash margin 25 per cent., balance monthly for 24, 36 or 60 months. Also

**Locomotives and Cars**

On same terms. Second-hand Rails purchased.

**The STEEL RAIL SUPPLY CO.**

HUMPHREYS & SAYCE Mgrs., 10 Wall St., New York.  
We have no Agents.

**— Steel Rails, all Weights. —**

I have FOR SALE a second-hand standard gauge Locomotive, Rogers build, cylinder 12 in. x 20 in., four drivers, wood burner, in good condition. Delivery in South Carolina. Full description on application. I am prepared to furnish Steel Rails, Frogs and Switches, Fish Plates, Bolts and Nuts; also new or second-hand Standard or Narrow-gauge Railway Equipment.

**BENJAMIN WATSON, 40 Wall Street, New York.**

**FOR SALE.** Rails, Spikes, Fastenings, Frogs, Switches and Crossings. Locomotives, Dummies, Cars, Wheels and Axles. Complete outfit for logging Roads and Street Railways. New and Second-hand.

**WILLIAM MINNIGERODE, Dealer in RAILWAY SUPPLIES,**

ROOM 3, JOHNSTON BUILDING, CINCINNATI, O.



**Keep Your Belts From Slipping,**  
And Save Your Power by Using Friction Covering for Pulleys.  
Satisfaction Guaranteed. Easily Applied. No Rivets. Effective.  
**NATIONAL PULLEY COVERING CO., Baltimore, Md.**

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**NEW YORK EQUIPMENT CO., 15 Wall Street, New York.**

Have for Sale for Cash or Lease on Easy Terms on the CAR TRUST PLAN.

**LOCOMOTIVES,****PASSENGER AND FREIGHT CARS, ETC.**

Of both Standard and Narrow Gauge, to Railroad Companies, Logging Railroads, Mining Companies, Contractors, Etc.

We have on hand 3,000 tons of 35-lb. second-hand iron T rail, good to relay We carry in stock second-hand rail of any section desired. We are prepared to furnish Locomotives to railroad companies or contractors on monthly rentals for long or short terms. Send for Circulars. Correspondence solicited.

**FOR SALE for Cash, or Credit on Car Trust.**

- 20 Second-Hand Narrow Gauge Passenger Coaches.
- 20 Second-Hand Standard Gauge Passenger Coaches.
- 30 New Standard Gauge Passenger Coaches, built at one of the best works in the United States; all modern improvements. Price \$3,700 each. Now ready for lettering.
- 40 Second-hand Narrow Gauge Locomotives. Different sizes.
- 60 Second-Hand Standard Gauge Locomotives. Different sizes.

**Estimates Furnished for Electrical Equipment**

UNDER LATEST IMPROVEMENT.

Apply to **ALFRED W. LADD, 44 Broadway, New York.**

**Cotton Machinery.**

- 1 3,000 Spindle Carpet Warp Plant.
- 1 200 Loom Plant for Osnaburghs, Sheetings, Drill, &c.
- 1 System Bagging Machinery, capacity 30,000 lbs. per week.
- 1 Full System of Print Cloth Machinery, 160 LOOMS.
- 110 Potter 36 in. Cards, 18 in. Doffers, Quick-Running Comb, nicely clothed with ENGLISH Clothing. These Cards are a BARGAIN.
- Also a large lot of Miscellaneous Machinery in first-class condition.

**L. Godfrey & Co., 147 Gaspee Street, Providence, R. I.**



## TRADE NOTES.

FEW if any complaints are heard in these times that the woodworker cannot secure time and labor-saving machines to serve his special purposes. One concern which has endeavored to study their wants successfully is the Egan Co., of Cincinnati, Ohio. This firm has made great efforts to reduce the cost of manufacture to the lowest point. Their late mechanisms of American ingenuity of every description for the working of wood are well thought of, and those wishing to purchase woodworking machinery would do well to secure prices from the Egan Co.

THE Schuyler Electric Co., of Middletown, Conn., manufacturers of dynamo machines, arc lamps, incandescent lamps and all articles relating to electric lighting and distribution of electric power, has recently installed in several Southern cities arc and incandescent lighting plants. Among these cities are Buena Vista and Bedford City, Va., and Spartanburg and Blacksburg, S. C. At Buena Vista the arc lights have been in operation for about six weeks, and the incandescent lamps will be started in a few days. The city of Alexandria, Va., also has a Schuyler arc light plant.

THE George M. Cruickshank Engine Works, of Providence, R. I., manufacturers of stationary, portable and yacht engines, has just completed for Mr. George Flint a 75 horse-power compound yacht engine, which is capable of a speed of 18 knots an hour. These works also turn out general and special machinery, shafting, pulleys, rubber moulds of every description, all of which are of high grade. The advantages claimed for the engines manufactured by this concern are a great saving of steam and noiselessness in operation. Full particulars and prices will be given upon application.

MANUFACTURERS of agricultural machinery seem to think that the Nubian iron enamel, manufactured by the Nubian Iron Enamel Co., of Chicago, is indispensable in finishing their products. The following is a sample letter received recently by that company from the well-known firm of Aultman, Miller & Co., of Akron, Ohio:

Gentlemen—We have your favor of the 16th, and we take pleasure in sending you herewith contract in duplicate for our next season's supply of black. Please sign both and return one copy to us. We are better pleased than ever with your goods.

AULTMAN, MILLER & Co.,  
LEWIS MILLER, Supt.

It is impracticable, if not wholly impossible, to operate machinery with economy on a varying speed. It has thus every year become more and more apparent to manufacturers of fabrics that to secure the most profitable results their machinery must be run at the highest rate of speed consistent with its durability and the production of a perfect cloth. To secure this an appliance known as the Gillespie rotary hydraulic governor has been introduced with great success into a number of mills and factories all over the United States. John S. Rogers, 380 Atlantic avenue, Boston, Mass., is the manufacturer of this governor, and desires to correspond with some business man with capital to associate himself with the present owner in its sale.

THE Waltham Emery Wheel Co., of Waltham, Mass., will soon erect a new building to accommodate its increasing business. This concern was organized in 1880 by Mr. Henry Richardson, a skilled mechanic then in the employ of the American Watch Tool Co. Shortly after he took several gentlemen in partnership with him and the present company was organized.

ized. The works have been enlarged several times, and now the company will erect a factory two stories high and 240x50 feet, to include all modern improvements in construction. The Waltham Emery Wheel Co. makes the Richardson wheel, the New Waltham and the Waltham emery and corundum wheels, all of which have a reputation, and also deals in emery wheel machinery.

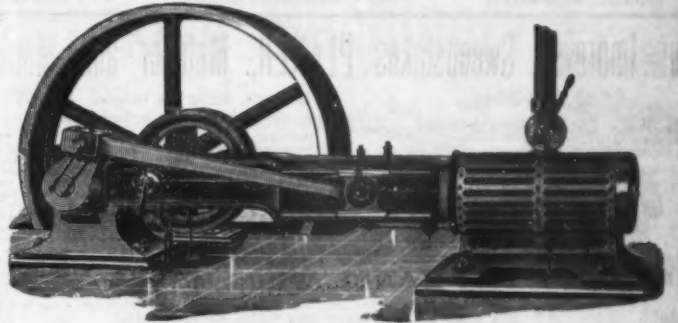
THE "Linde" ice and refrigerating machinery advertised by the Fred W. Wolf Co., of Chicago, Ill., will be found in another column of this paper. The "Linde" is a German machine, and its reputation has been thoroughly established, and it is very popular with brewers and for cold-storage warehouses, stock-yards, etc. The business of the Fred W. Wolf Co., who are the sole American manufacturers of this well-known ice and refrigerating machinery, has had a large growth during the past year, and they have been obliged to build a very large addition to their already large factory, which extends from 302 to 330 Hawthorne avenue. The offices of this company are 556 to 560 North Halstead street, Chicago. They are prepared to furnish plans and estimates promptly on ice or refrigerating plants of any capacity.

No railroad has contributed more to the development of the country than the Richmond & Danville, when we consider the time it has been in operation and the distance it covers. Beginning with a main line only 140 miles in length, it now owns or operates under lease 2,300 miles, reaching all points South, and giving it conspicuous pre-eminence as a thoroughfare in that direction. This great system is doing for the South what other systems have done for the West, and the changes that have taken place along its lines by giving impetus to Southern energy and enterprise are in the nature of a revelation to those who remember in what condition that section was left by the war and for some years after. The policy of the Richmond & Danville has been continuously sagacious and public-spirited, and all travelers over the road speak in the highest terms of its excellent accommodations and the evident determination of the management to strengthen its popularity with the public. This opinion is borne out by every one who has had business dealings with General Manager Randolph or General Passenger Agent Taylor at this end of the line, and what is true of the Washington officials is equally true of Atlanta, Birmingham and all other points on the road.—Washington Post.

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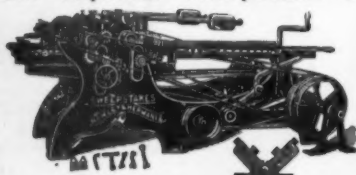
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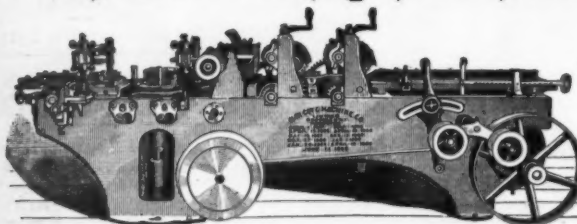

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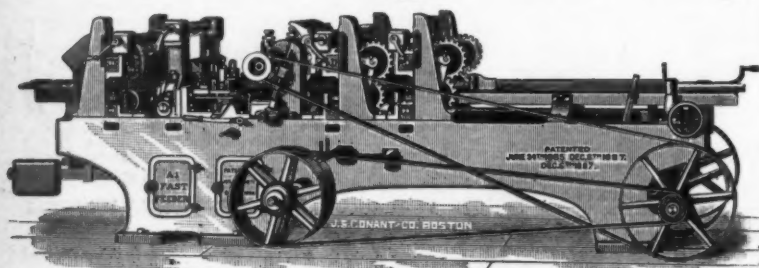
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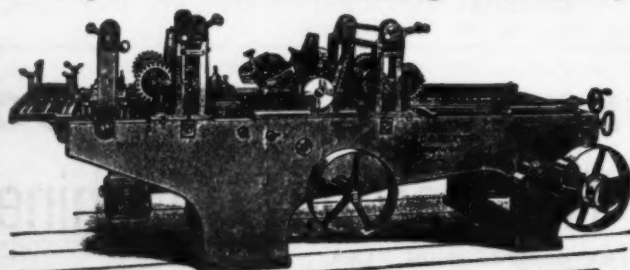
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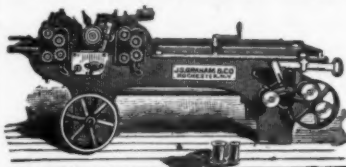
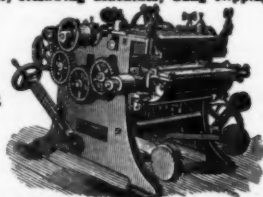
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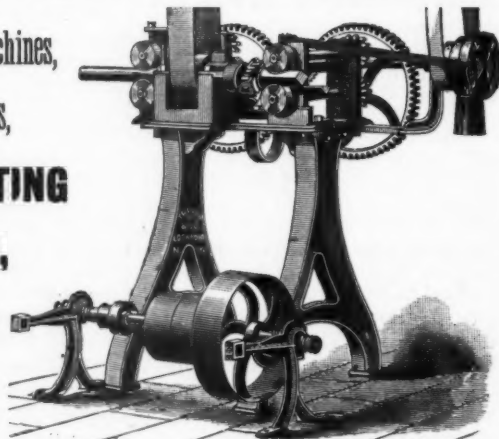
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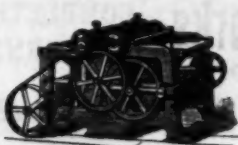
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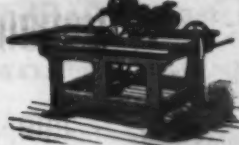
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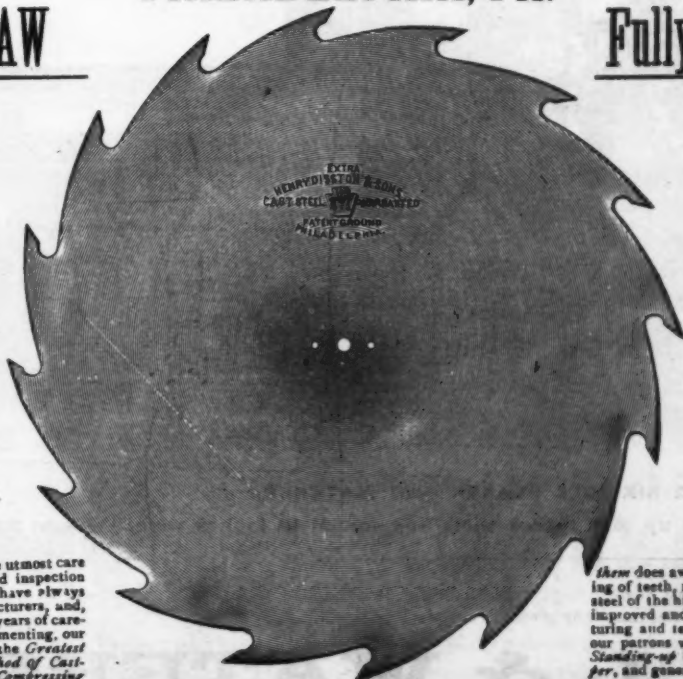
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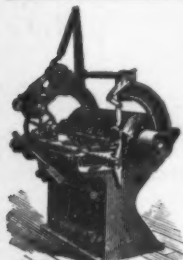
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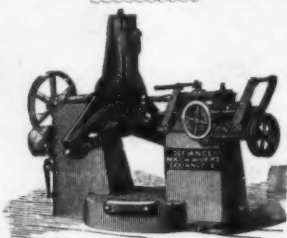
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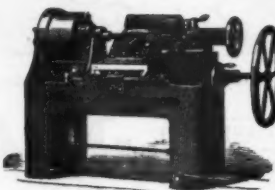
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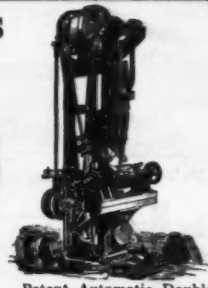
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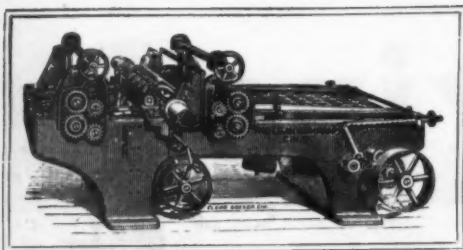


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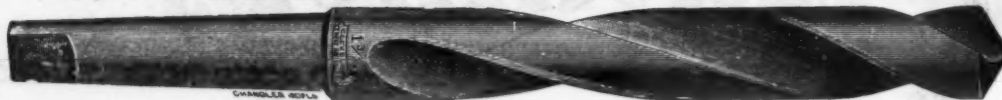
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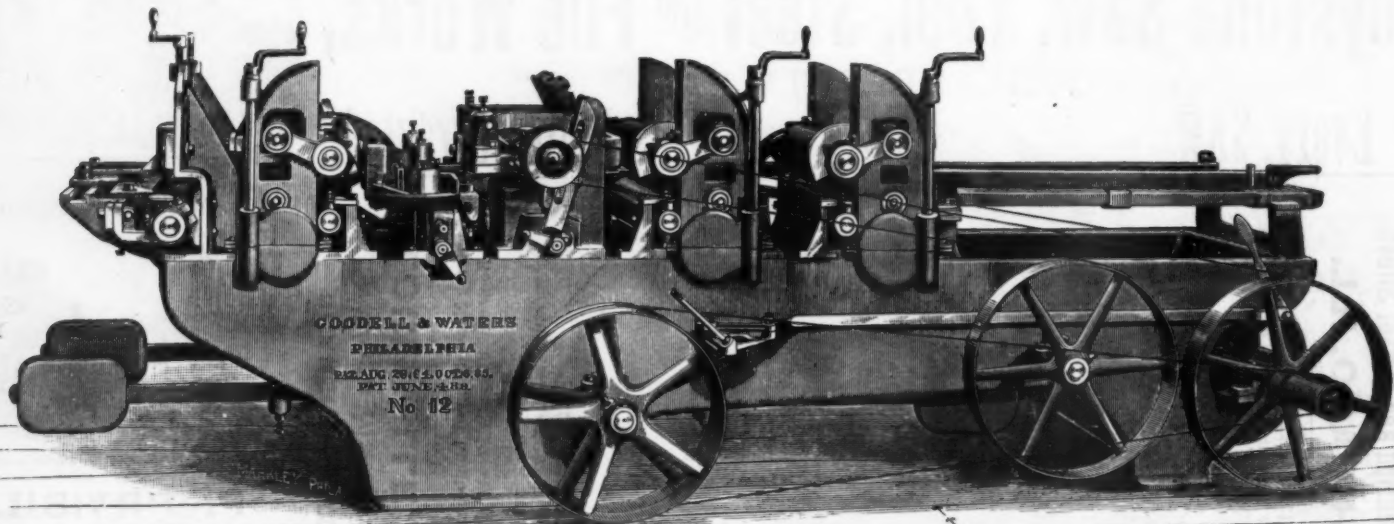
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To Double or Single Surface 24 inches wide up to 6 inches thick and match 19 inches wide. Weight 7,000 pounds.

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No. 24 Hand, Panel and Rip Saws—26-inch, list \$30.00  
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PRICE, QUALITY and general SUPERIORITY taken into consideration, this is the Best Hand Saw on the market for Mechanics use.

**SAWS.**Extra Thin Back. Patent Handle. Hollow Back Blade.  
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CROSS-CUTS furnished in all the leading shapes, sizes and styles of teeth, in both WIDE, NARROW and ONE MAN Saws. Only the very best of Crucible Steel of our own manufacture enters into our goods, and we fully warrant them in each and every particular. We are now turning out the finest goods ever produced in our line. For Sale by all Leading Jobbers and Dealers.

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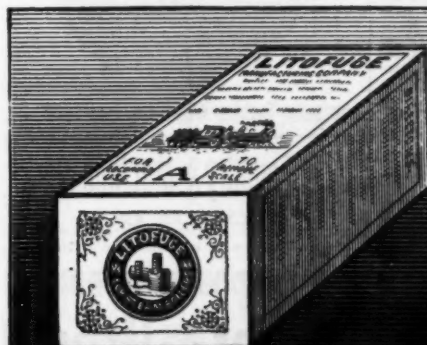
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## TRADE NOTES.

A. M. CLOUD, of Springdale, Tenn., is advertising in this issue for a man with some capital to join him in opening up and working a valuable salt well situated near the Cumberland Gap & Knoxville Railroad.

THE Charter Gas Engine Co., of Sterling, Ill., is now shipping its gas engines all over the United States. The company informs us that orders have come in so rapidly that even should it fail to receive another one until September it would not have filled them all. The company makes gas engines of from 2 to 50 horse-power. Great cheapness is claimed for these engines, the cost of operation per hour for each indicated horse-power being only about one cent.

MESSES. WM. BARAGWANATH & SON, of Chicago, Ill., proprietors of the Pacific Boiler Works, are making a heater for the Chicago Edison Co., which they have christened the "whale." It is 5x22 feet in dimensions, and will weigh about eleven tons. It contains four tons of seamless brass tubing. Its exhaust ports are 24 inches and feed pipes 6 inches in diameter, and on the firm's basis of rating of 1 horse-power per foot of heating surface, it will boil water for 2,110 horse-power of boilers.

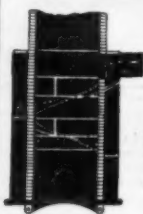
THE manufacturers of the Cortright patent metal roofing claim many advantages for their product that merit the attention of architects, among which are simplicity in working, durability and protection against expansion and contraction. The Cortright Metal Roofing Co., of Philadelphia and Kansas City, which manufactures this roofing, invites architects and others to send for their descriptive circular, which explains in detail the special qualities and the purposes for which the article is mainly adapted.

"No man should attempt to start up a new machine of any description unless he first understands it." Thus commences the Van Winkle Gin & Machinery Co., of Atlanta, Ga., and Dallas, Texas, in a little book of seventy pages. This book, besides being replete with hints concerning the operating of new machinery in general and gins in particular, gives a number of testimonials together with a descriptive price-list of the company's products. All persons interested in gin machinery should send for a copy.

THE BUSK-IVANHOE TUNNEL.—Cutting the continental divide of the Rocky mountains, on the line of the Colorado Midland Railway, which, when completed, will be the third largest tunnel in the United States, is now likely to be pushed with vigor to an early finish, the contract having been finally let to Mr. M. H. Keefe, of Helena, Mon. The complete double outfit of tunneling machinery, boilers, air compressors and rock drills are to be furnished by the Ingersoll-Sergeant Rock Drill Co., No. 10 Park Place, New York.

THE Knoxville Car Wheel Co., of Knoxville, Tenn., has issued one of the neatest souvenirs which have come to our notice. It is in the form of a pad of several blotters attached to each other for convenience, the upper side of which is covered with a piece of celluloid. The celluloid bears upon it in the upper right-hand corner the name of the firm inscribed in gold letters, together with their seal in three colors, gold, scarlet and black. The Knoxville Car Wheel Co. is one of the leading concerns of its class in the South, and manufactures chilled wheels of all sizes, together with soft castings, light forgings, marble and dump cars. Machine shop repair work also forms no small portion of the

company's business, and a varied line of heavy iron work, such as derricks, rock crushers, steam hammers, gearing, shafting pulleys, etc., is always kept in stock.



**VICTOR COLLIAU,**  
Sole Manufacturer  
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**Colliau Cupola.**  
Address 287 Jefferson Ave.  
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**BLAST FURNACES,  
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Missouri Furnace Co., Mo.....	2
Jupiter Furnace Co., Mo.....	3
Western Steel Co., Mo.....	3
Tenn. Coal, Iron & R. R. Co., Ala. and Tenn.....	21
Cleveland Rolling Mill Co., Ohio.....	4
Belmont Nail Co., W. Va.....	3
Sheffield & Birmingham Coal, Iron & R. R. Co.....	9
Southern Iron Co., Tenn.....	6
Decatur Land, Iron & Furnace Co., Ala.....	2
N. Y. & Perry Coal & Iron Co., Ohio.....	2
Princess Furnace, Va.....	2
Irontide Furnace, W. Va.....	2
Cornwall Anthracite Furnaces, Pa.....	4
Duluth Iron & Steel Co., Minn.....	3
Geo. P. Whittaker Co., Md.....	2
Phila. & Reading Coal & Iron Co., Emans, Pa.....	3
Burden Iron Co., Troy, N. Y.....	3
Junction Iron Co., Ohio.....	4
Lawrence Furnace Co., Ohio.....	2
Piedmont Land & Improvement Co., Ala.....	2

Total.....103

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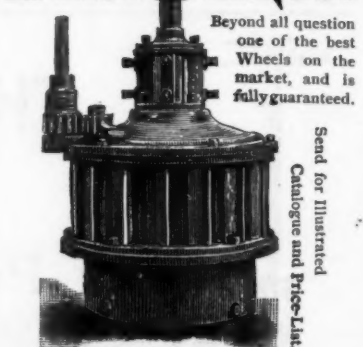
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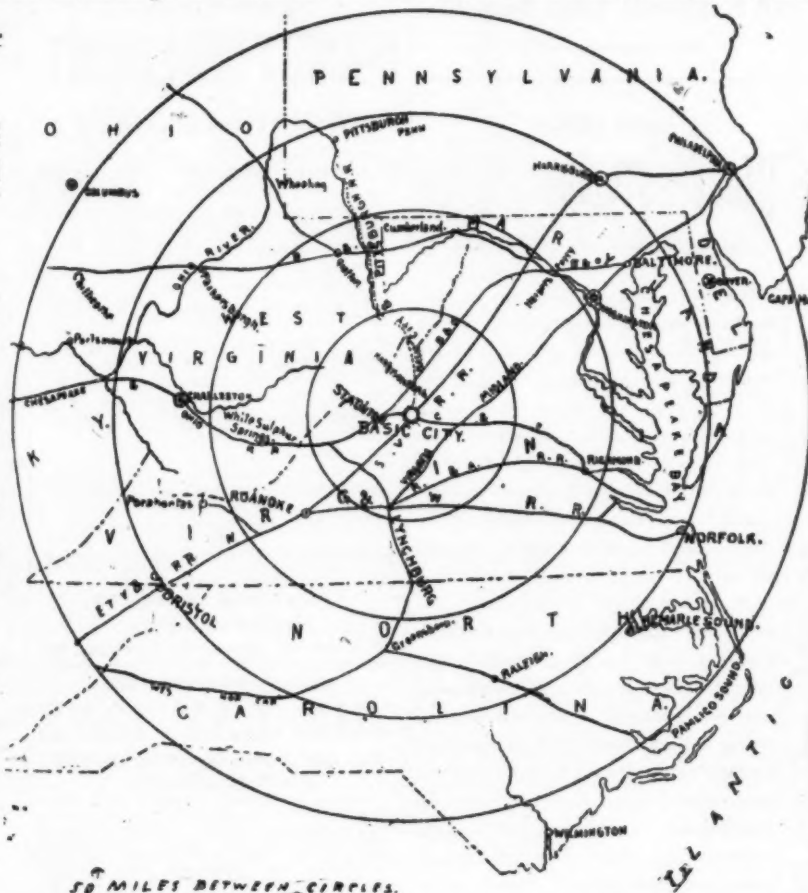
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Already secured a 100-ton Iron Furnace, Car Works, Paper Mill, Hardware Factory, two Blind, Sash and Building Material Factories, two Brick and Tile Factories, and others are being negotiated for. A large and handsome Hotel in course of construction, 250 feet long, with 85 rooms. The industries will employ at least 900 workmen.

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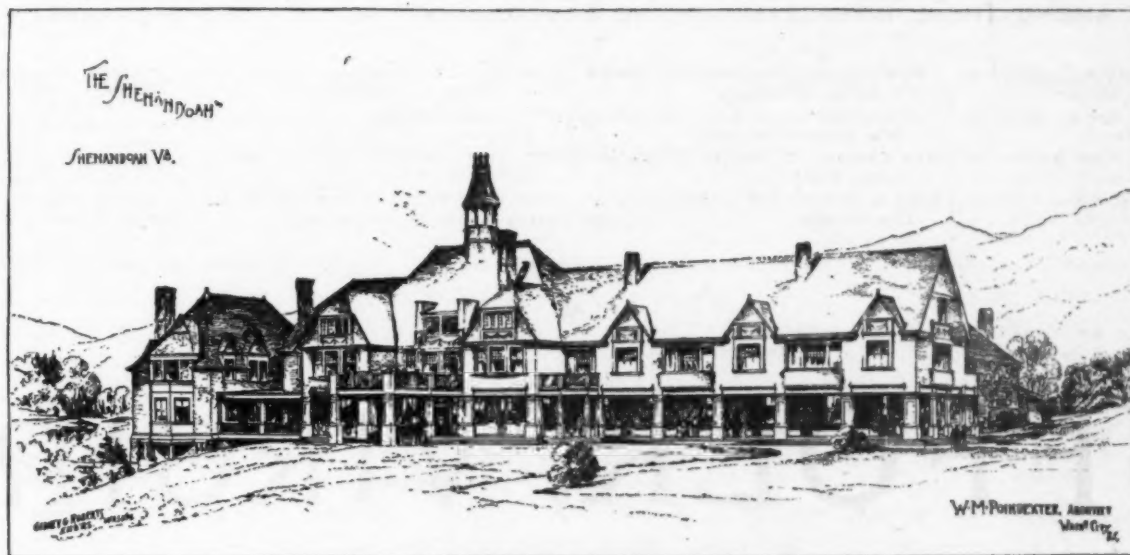
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Vast bodies of timber lands, furnishing in endless quantity the finest oak, hickory, ash, maple, walnut, chestnut, elm and pine for manufacturing and decorative purposes.

### RAILROADS.

The Shenandoah Valley Railroad runs directly through Shenandoah, which will be the terminus of the Washington extension. The West Virginia Central Railroad, as projected, will pass through Shenandoah, opening up the immense mineral deposits of the Massanutten Mountains.

### PRESENT INDUSTRIES IN OPERATION.

There is a Furnace Company, producing 30,000 tons of foundry and mill iron annually. They also operate a foundry. The Shenandoah Valley Railroad have here their principal machine shops, car shops, blacksmith and boiler shops. There is a brick works and two planing mills.

### Improvements Decided Upon and Under Construction.

The Land and Improvement Company are building a large and commodious hotel; also a handsome office building. Plans are fully decided upon and work will soon begin on a water works, electric-light plant, water-power facilities, about one hundred dwellings, besides grading streets and laying sidewalks.

The Furnace Company have completed plans and will at once erect another Furnace and a rolling mill.

The Railroad Company will erect a handsome rough stone passenger station, a large freight house, new shops and a round house—doubling present capacity.

Many individuals are building residences and stores.

### INDUCEMENTS TO MANUFACTURERS.

The Shenandoah Land & Improvement Company are prepared to offer inducements to manufacturers to locate here, and will treat most liberally with any such who desire to establish industrial plants.

By special permission in the charter of Shenandoah, all manufacturers who may establish works here are exempted from corporation taxes for five years.

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Shares \$100 Each.

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2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

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Capital Stock, \$2,000,000.

Luray, Page County, Va.

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### CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutten Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

### LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

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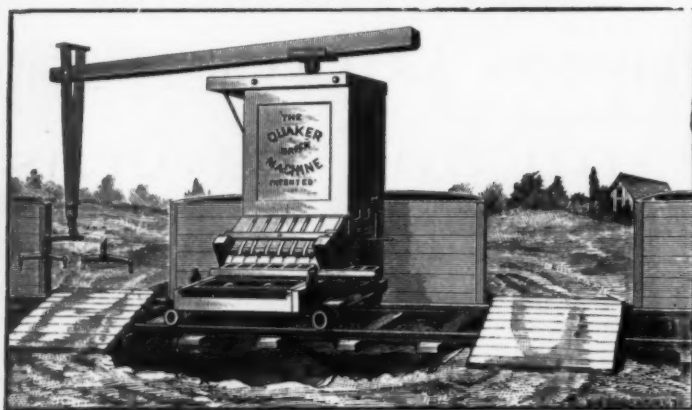
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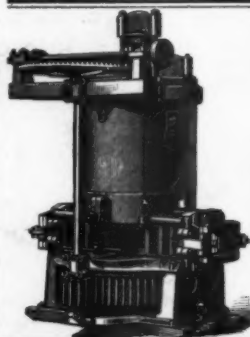
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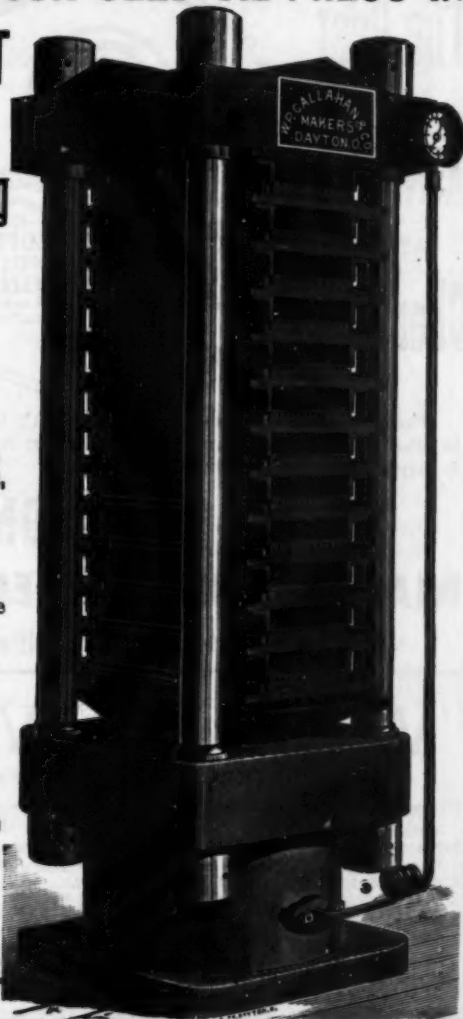
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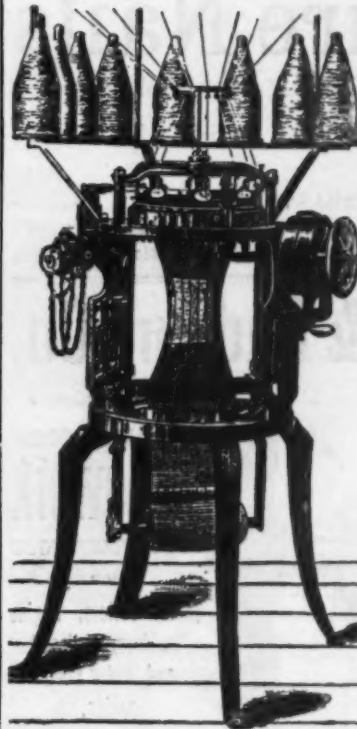


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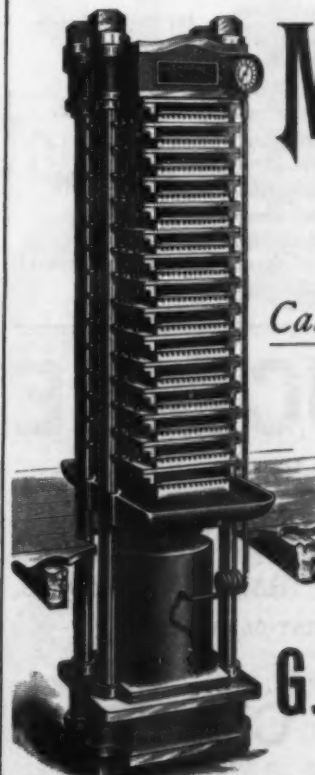
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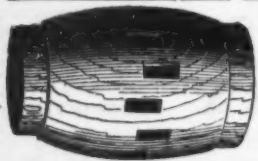
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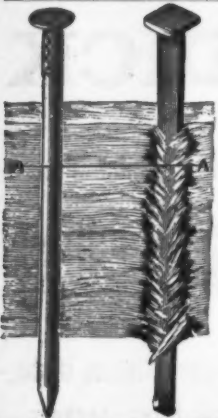
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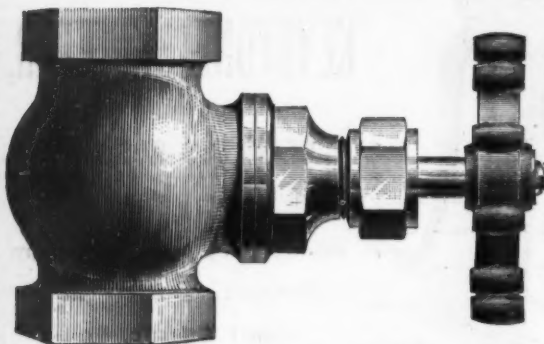
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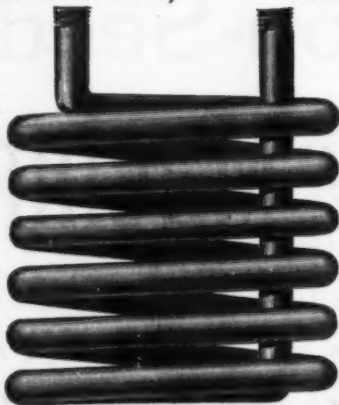
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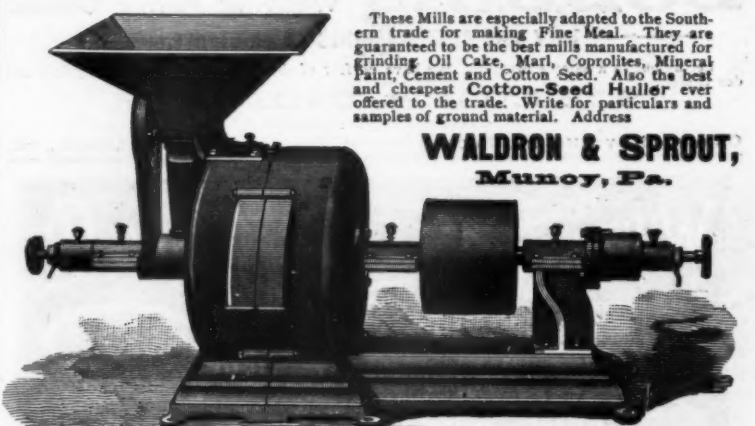
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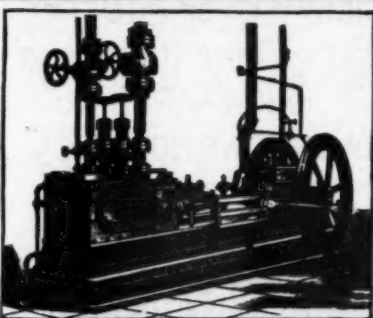
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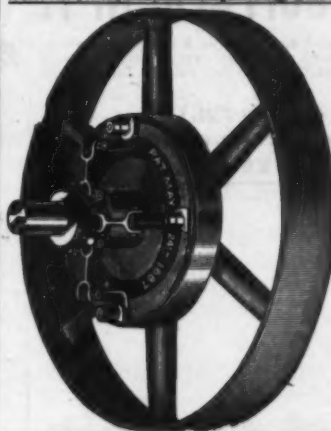
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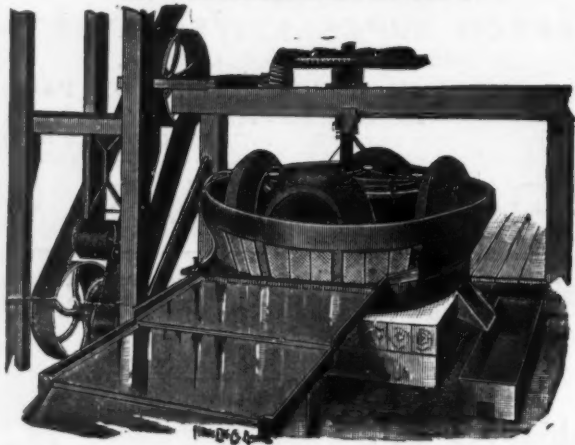
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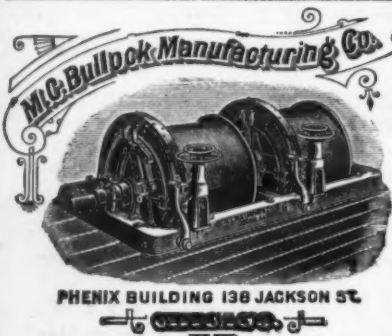
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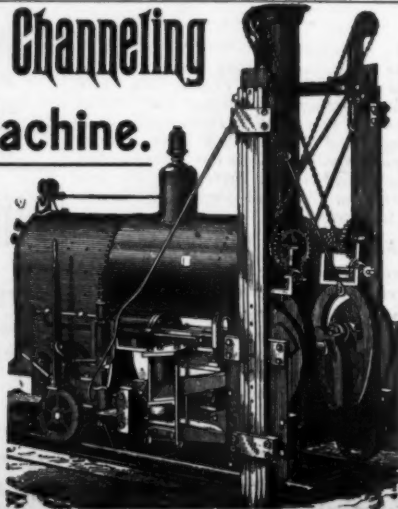
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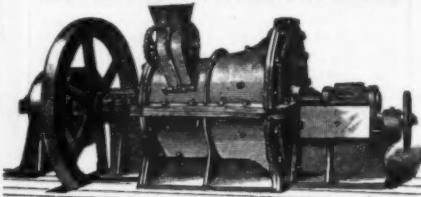
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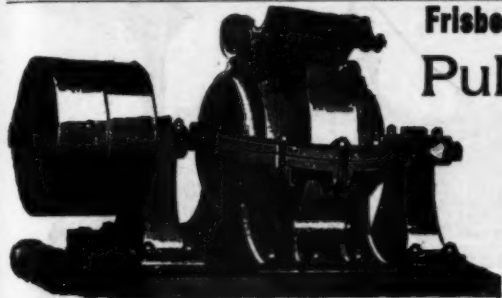
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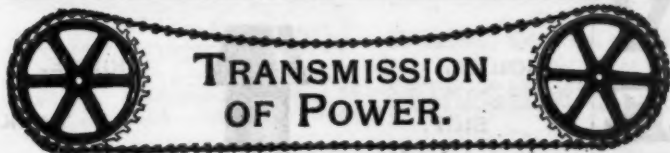
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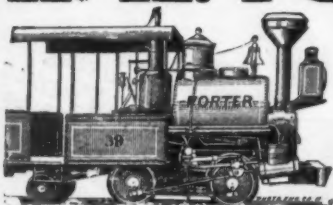
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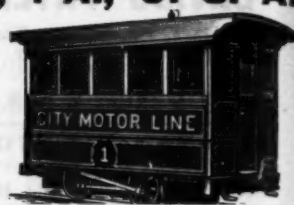
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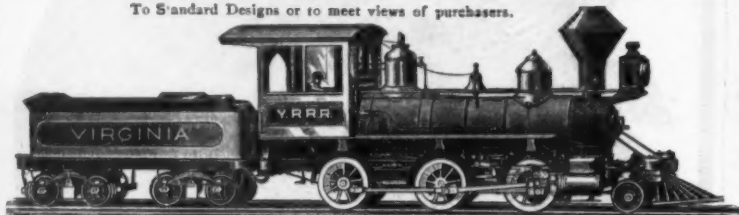
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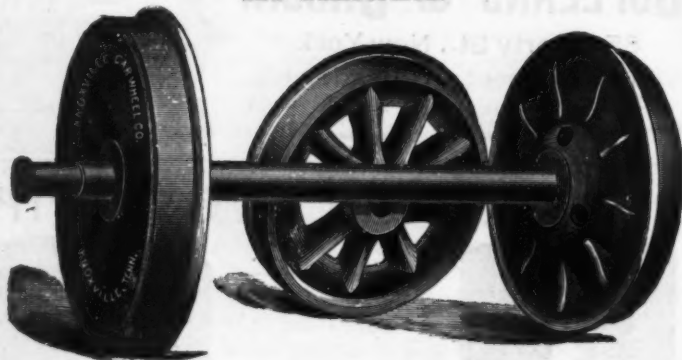
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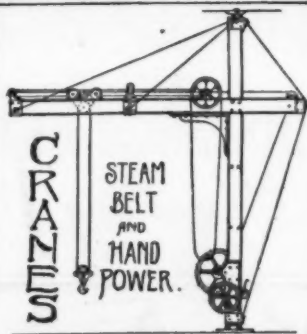
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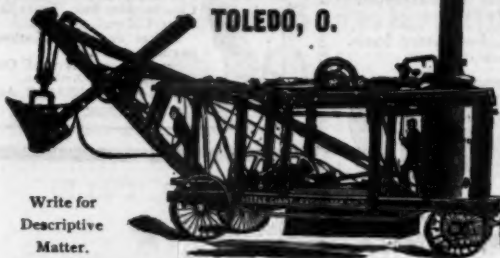
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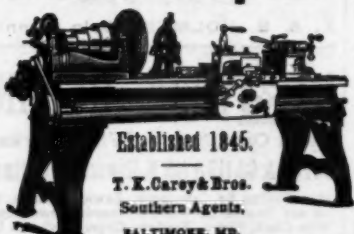
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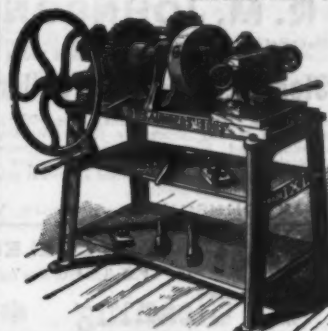
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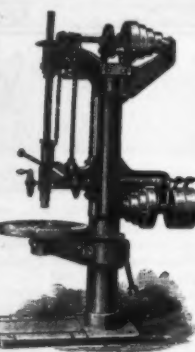
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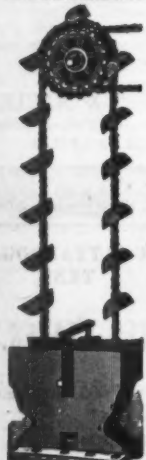
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Automatic Cut-Off and Plain Slide Valve

**Steam Engines and Boilers,**

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Canning and Electric-Lighting Machinery a  
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The only Stump Machine in  
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VINITA PLANING MILL.—Engine was Set up and  
Started by our Printed Directions.

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DEAR SIR:—My No. 4 Gasoline Engine gives  
entire satisfaction thus far, and I see no reason  
why it should not continue to do so. The engine  
was set up and started in less than ten hours  
after being put in shop, according to your printed  
directions accompanying same. A great many  
people come to see it and all express their sur-  
prise, but all acknowledge it to be a dandy.  
Yours respectfully, R. D. KNIGHT.

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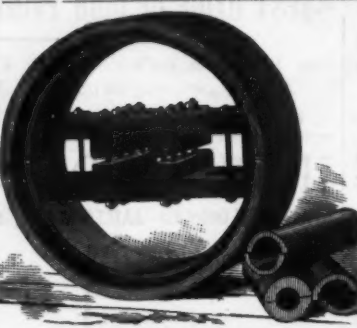
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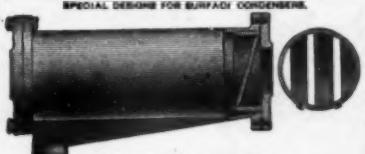
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For Separating and Removing Entrained  
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Ours are the Standard  
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LATELY

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Just the thing  
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belts driving  
Dynamoes, Blows,  
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very low. Sent  
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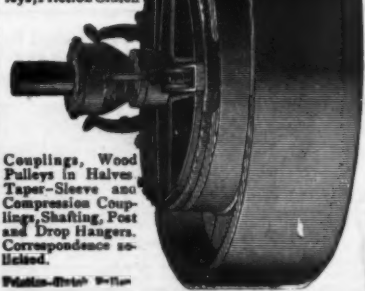
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Manufacturers of  
Taper-Sleeve Wood  
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Couplings, Wood  
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10 cents per pound; for coating, also 10 cents per pound.  
Orders by mail promptly attended to.**

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Foot and Power Lathes, Drill  
Presses, Scroll Saw Attachments,  
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Dogs, Callipers, etc.  
Lathes on trial. Lathes on  
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Send for catalogue of Outfits  
for Amateurs or Artisans.  
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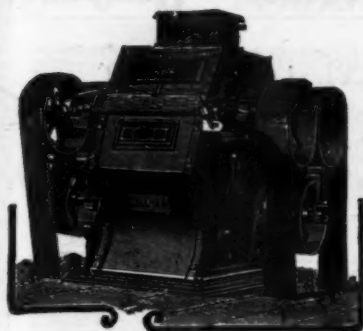
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STURGIS ROLLER MILLS,  
BAUER & BUHRER, Proprietors.

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*The Case Manufacturing Co., Columbus, Ohio:*

GENTS—We started mill July 7th. The 12 pair 9x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even, and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,

Very truly yours,

BAUER & BUHRER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



## THE CASE MANUFACTURING CO., Columbus, Ohio.

### The New Covert Factory.

Among the many leading manufacturing houses in the United States there is none who occupy a more prominent and enviable

position than the Covert Manufacturing Co., of West Troy, N. Y. Commencing business in 1873 with a somewhat limited capital and few facilities, they have with almost phenomenal success built up a massive trade, which has compelled them from time to time to increase their plant and extend their capacities. They have just finished a substantial extension of their works, and in this issue we present a fair view of their main building as it now appears.

For the fourth time they have been obliged to increase their motive power, and in a few weeks their new and powerful Corliss engine will be placed in position and other machinery will also be added, rendered necessary by the rapid increase in the demand for their goods.

Their goods are now handled by all the leading jobbers in every city in the Union, and their already extensive foreign trade is one of the features of their business.

They have always been large patrons of the advertising journals, and believe their success is largely due to their extensive system of judicious advertising. There is no firm or business house in the United States more widely and thoroughly known to the commercial world. Their goods have a standard of excellence which has led rich, powerful and not over-scrupulous manufacturers to imitate and infringe them, and the unique manner in which the Covert Manufacturing Co. battled and defeated their antagonists will ever be re-

membered as one of the great events in the history of the trade.

They warrant their goods first-class, and guarantee them in every particular.

the same taper. A bronze washer screws on the inner end of this bushing, drawing it into the taper socket and closing it upon the arbor sufficiently to secure a snug bearing. The spindle is made of the best cast

block. A special funnel for each sized center fits into the socket and is held in place by a set-screw.

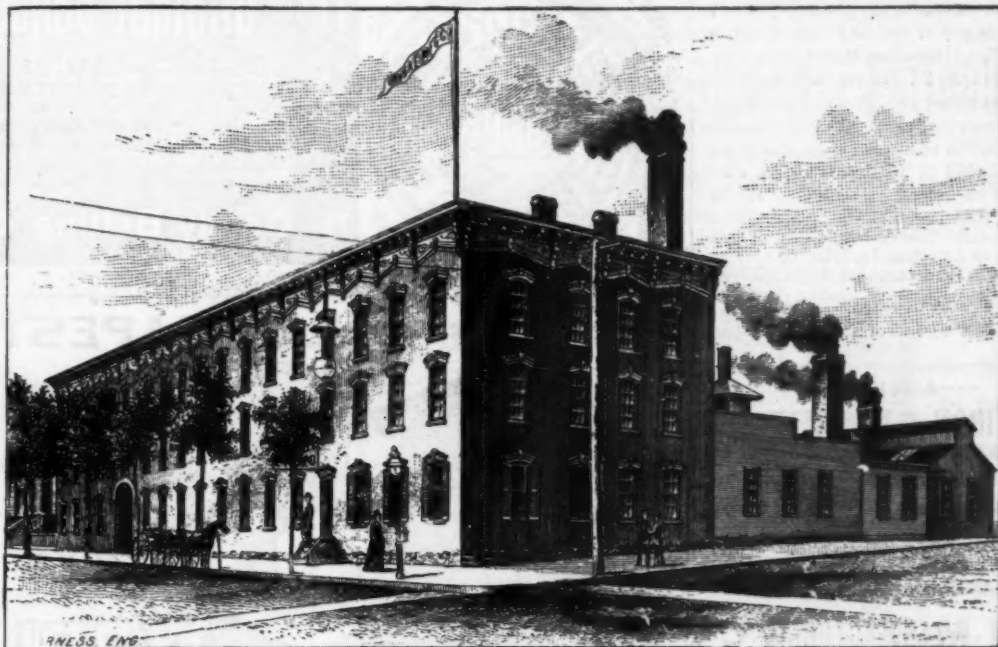
The tail-block is a single casting and is bored to receive the tail-stock, or arbor, into which is fitted a steel center, which revolves as a live center with the stick turned. The center is forced up to its work by means of levers and connecting rod. A side rod running lengthwise of the lathe is connected by a shorter rod to the tail-block lever, and a catch, acting upon the side rod, holds the center up to its work.

The finishing knife is attached to a lever, movable up and down upon a fulcrum, which, in turn, is adjustable in a vertical groove for different sized sticks. The outer end of the lever follows a wooden pattern secured to the lathe-bed, and causes the knife to turn any desired form within the range of the lathe.

Three regular sizes are manufactured for turning 4, 5 and 7½ feet, respectively. Special sizes of longer and larger dimensions are made to order. Each machine is also provided with dies, countershaft, hangers, etc.

For further information, with blue prints, catalogue, prices, etc., address the builders, the I. E. Merritt Machinery Co., Lockport, N. Y.

A saw and planing mill located in Lake county, Fla., doing a nice local business, with orders now entered on the books aggregating \$2,000, is offered for sale in



THE NEW COVERT FACTORY.

### An Automatic Gauge Lathe.

After 30 years' experience with handle machinery, the I. E. Merritt Machinery Co., of Lockport, N. Y., offer to the trade as the most approved design, the latest style of gauge lathe shown in the accompanying cut.

The special features claimed are perfect adjustment of the knives and the cylindrical form of the die, causing it always of necessity to be exactly centered and easy of insertion. The knife of the die is held independently and by means of screw adjustment can be delicately set to conform to the varying conditions of size and quality of stock turned. The finishing knife and lever are also provided with universal adjustment and the operator has it in his power to reach the utmost degree of perfection and accuracy in using the lathe. Delicate adjustment of knives in gauge lathes is indispensable, and in this design the most trying conditions have been taken into consideration.

The Merritt Co. also give close attention to securing perfection in the construction of bearings and revolving parts. In this lathe, the head block is designed and made with the same care as is exercised in the building of iron-working machinery.

It is made in a single piece and affords two bearings for the arbor, the front bearing being a bronze box bored on a taper corresponding to that of the arbor. The back bearing is also bored tapering and fitted with a split bronze bushing turned to



AUTOMATIC GAUGE LATHE.

steel, and is turned on a taper where it enters the front bearing of the head block. A funnel-shaped device for self-centering the sticks is connected with the head-

another column by H. M. Pfann, of Lady Lake, Fla. Teams and all necessary fixtures will be included in the sale, and everything is in good working order, practically new.

## The Markets.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, August 13, 1890.

Brokers in two or three Northern markets intimate that there will be some interesting developments in the iron trade before long. They would like to have it understood by this that there will be such a sudden improvement in the demand for both crude and finished material as to make a general advance in prices possible. They argue that a basis for this advance is to be found in the fact that stocks of crude iron are very low in both makers' and consumers' hands, and that there are enormous consumptive requirements soon to be covered. While these two facts are undeniable, it does not follow, by any means, that an advance in prices is probable. Productive capacity is said to be fully employed; but the expression is an elastic one, and it is quite safe to assert that any increased demand could be promptly met. A good many buyers of finished material are now placing orders for three to four month's delivery. Plate and bridge iron buyers in both Eastern and Western markets are now placing their orders, simply that they may be assured of the delivery of supplies just at the times they will be needed. There is a very satisfactory condition of trade in all Northern markets. Chicago markets are very strong for all kinds of material. At that point steel rails are quoted at \$33.50. Railway material of all kinds is in demand. Nails are moving freely. All kinds of merchant steel are strong, owing to the heavy demand for material for tool and agricultural implement manufacture. A host of orders are being placed by the Western bridge builders. There is also a good deal of business done in bar iron, plates, tubes and sheets. In crude iron there is nothing new. Southern No. 1 coke is quoted at \$16.50; Lake Superior charcoal, \$20; Alabama car wheel, \$22.50.

Western Pennsylvania markets are active, and the entire finishing capacity of that section is running full. A few furnaces have been blown out for repairs, but will be at work again as soon as possible. Crude iron has been moving very actively at \$15.50 for neutral gray forge. Large contracts for both crude and finished material are being placed at Pittsburgh. The Philadelphia iron trade is in good condition; a liberal movement is in progress. At New York a good many inquiries have been made for steel rails, and sales just reported amount to about 30,000 tons. There are inquiries now in hand for from 40,000 to 50,000 tons more, and quotations at Eastern mills range from \$31 to \$32. There is an active demand for copper, and prices continue to advance. Tin plate is strong, and heavy orders have been placed by the canners. The entire iron market is in satisfactory condition, and, in view of the strong feeling shown among manufacturers, it is probable that buyers will place their orders for the fall before the end of August.

### HARDWARE.

The tone of the market continues firm, with but little deviation from regular prices and terms, and orders are coming in freely, indicating a satisfactory feeling among the jobbing trade, only marred by tendencies toward curtailed profits, resulting from excessive and steadily increasing competition. Many jobbing centers are more active than their local territory can profitably support, and to work off any quantity of goods they are compelled to encroach upon the natural market of another section, with the result above indicated. As a rule crop prospects continue favorable and are nearly assured, so that

the fall trade will probably assume larger proportions than for some years past; and, all things considered, purchasers need feel but little hesitancy in placing orders for their needs during the next few months.

THE National Water Tube Boiler Co., of New Brunswick, N. J., is very busy on large orders for its boilers, and have found it necessary to increase facilities to keep pace with the growing business. Recently an extension has been made to the works, and additional machinery is now being put in which will greatly facilitate deliveries. The National boilers are now in use in almost every State in the Union and in many foreign countries. The plant of about 600 horse-power of these boilers lately erected for the Sawyer-Man Electric Co. in 23d street, New York, is a model one, combining in its construction the results of large experience.

A FEW leading points claimed for the Furman boiler for steam and hot water heating are that it cannot be affected by variations of temperature and expansion or contraction; absolutely tight water connections, presenting any possibility of leakage; economy of fuel and ease of regulation. The Herendeen Manufacturing Co., of Geneva, N. Y., are the makers of this boiler, and have published a catalogue containing over 100 pages which fully describes the apparatus and its workings, also including a number of testimonials from users. At the fifth annual convention of the Society of American Florists, at the Buffalo International Conventions in 1888 and 1889 and at the American Institute in 1888 the Furman boiler secured the highest awards. Persons interested in heating apparatus should send to the Herendeen Manufacturing Co. for a copy of this valuable pamphlet.

### AMERICAN

## Pig Iron Storage Warrant Co.

(Bank of America Building.)

44 Wall Street, NEW YORK.  
Correspondence of Furnaces Invited.

### NASHVILLE RAPID TANNING

AND

## BELT MANUFACTURING CO.

Manufacturers of Oak Tanned and Rawhide Leather Belting, Lace Leather, Picker Leather, Ropes, Lariats and other Rawhide Leather Goods. NASHVILLE, TENN.

### DIXON'S

## Silica Graphite Paint.

DURABLE AND BEAUTIFUL.

Unaffected by heat or cold, dampness, salt air, rust, or even acids. For smoke stacks, boiler fronts, tin roofs, or metal work, this Paint is far superior to anything made. For details send for circulars. Joseph Dixon Crucible Co., Jersey City, N. J.

### PICKANDS, MATHER & CO.

## Pig Iron, Iron Ore and Coal.

Ferry-Payne Building,

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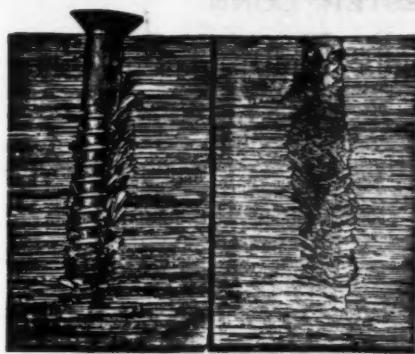
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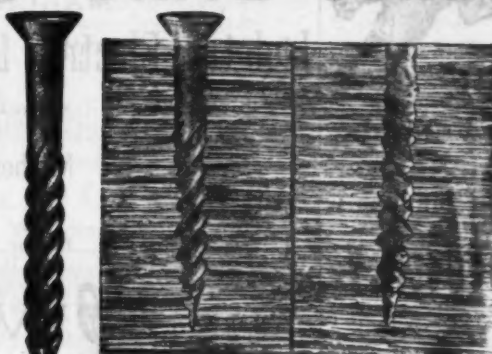
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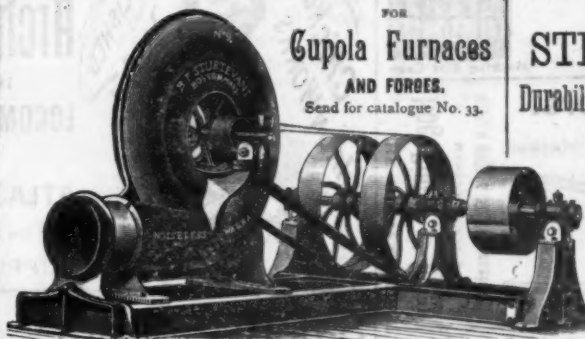
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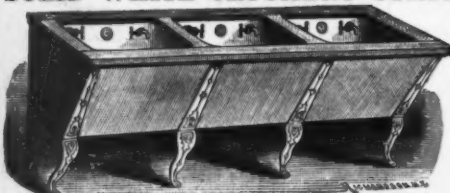
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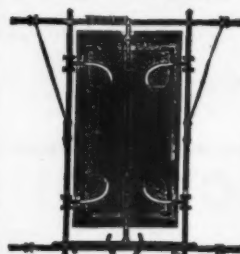
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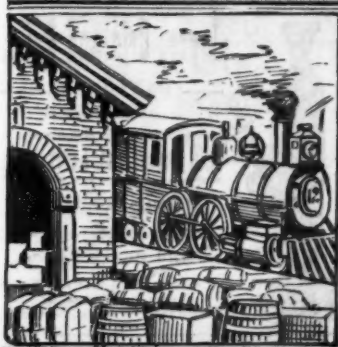
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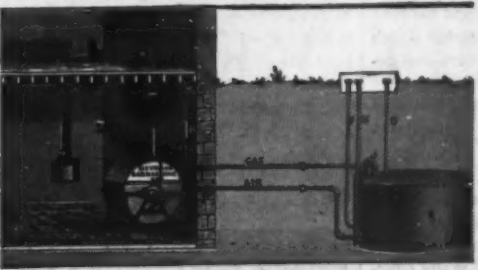
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1889

## Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, August 12, 1890.

The manufacturers of lumber in all parts of the country have found it not only possible but necessary to run full time, month in and month out, and notwithstanding the general activity, they report that stocks are light and that they will be able to continue on full time probably to the end of the year. In fact, it is stated that in some markets it is difficult to secure stocks of good dry lumber. This is not surprising, considering the extraordinary activity in building. In this city alone expenditures in building operations during the first six months of the year reached \$46,000,000; although the corresponding figures in Philadelphia are not published, it is safe to assert that they do not fall far below \$18,000,000 for the same time. There has also been great activity in Boston and interior towns in the New England and Middle States. Stocks of Southern lumber are reported to be low, and general surprise is expressed that, under this condition of things, prices should not advance; but a little study of the question will show why no advance is attempted. While there is no superabundance of Southern lumber, supplies are sufficient, and all manufacturers and shippers are too anxious to do the largest possible business to run the risk of checking demand by forcing prices up. The distribution of yellow pine and North Carolina pine in this and other Northern markets has been extraordinary, and the popularity of these woods is growing; the usual shipments are being made and consumption is maintained at a high point. It would be a difficult matter to unsettle quotations. Prices have been virtually fixed for the season, and buyers fully understand that there is no occasion for a change. Occasionally a cargo or a few car-loads of stuff sell at a little less than usual prices for spot cash. Manufacturers are not trying to run down the market by overcrowding it. Some little spruce is coming from New England, but the prices are high. Hemlock is in moderate supply; mill owners are holding on to stocks for good prices in the future. The most marked feature of the lumber trade this season is the generally active demand throughout the country. Little towns and villages are doing a good deal of business, and absorbing in the aggregate an enormous amount of lumber. The greatest activity prevails among Southern builders, and the local demand for pine is keeping stocks out of this market which would otherwise be rushed in here and depress prices.

The demand for hardwoods is not very active, one reason being that manufacturers are anxious to receive the very outside cent for everything they ship. Tennessee poplar is in good demand at the usual Association rates. An occasional lot is sold below the market, but such transactions are exceptional. A good many offerings are being made by parties outside of the Association, but our dealers here prefer to deal with Association people, as a rule.

Quartered oak is still in good demand, and the supply is now fully sufficient to demand. Plain oak is dull, and bargains can occasionally be had in it. Maple is coming in more freely, and four or five dealers are now stocking up. Wholesalers are not anxious to make large contracts for any kind of lumber, and as a rule, manufacturers prefer to ship their stuff and get market rates when delivered. This market is pretty well supplied with all the various kinds of hardwoods. There has been and still is a very good demand for lath, shingles and posts for the country trade. The harvesting season being about over, a better demand for lumber from the country districts is to be expected, as the farmers are doing a good deal of building.

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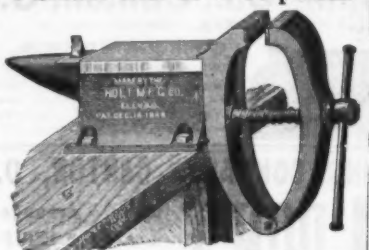
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8x2 1/2	1 10 1/2	1 75	3 50	4 50
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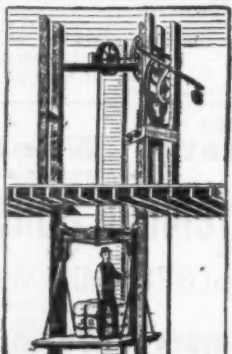


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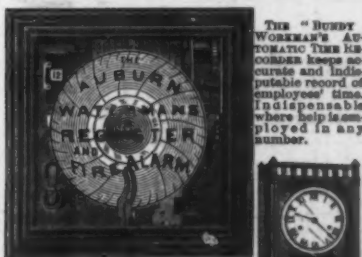
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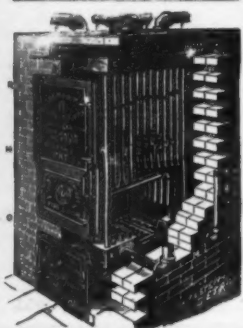
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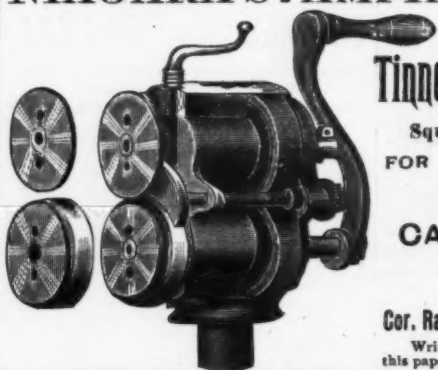
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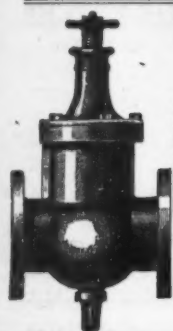
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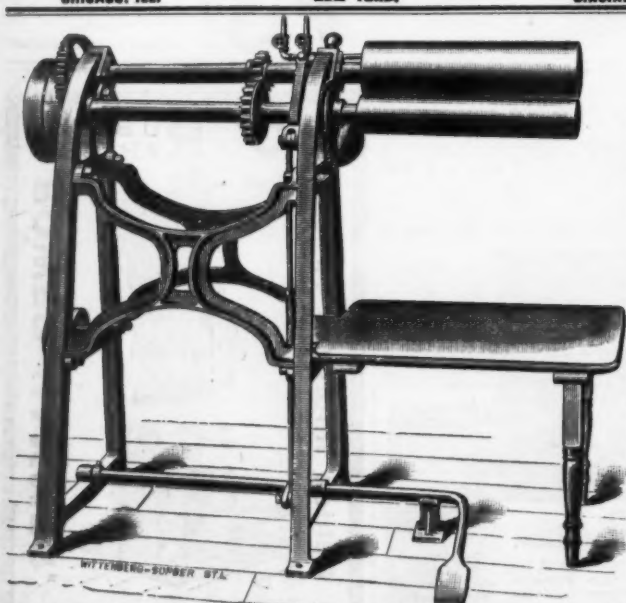
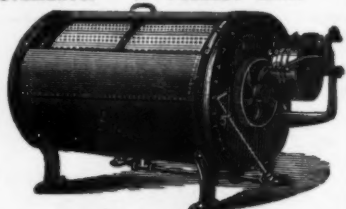
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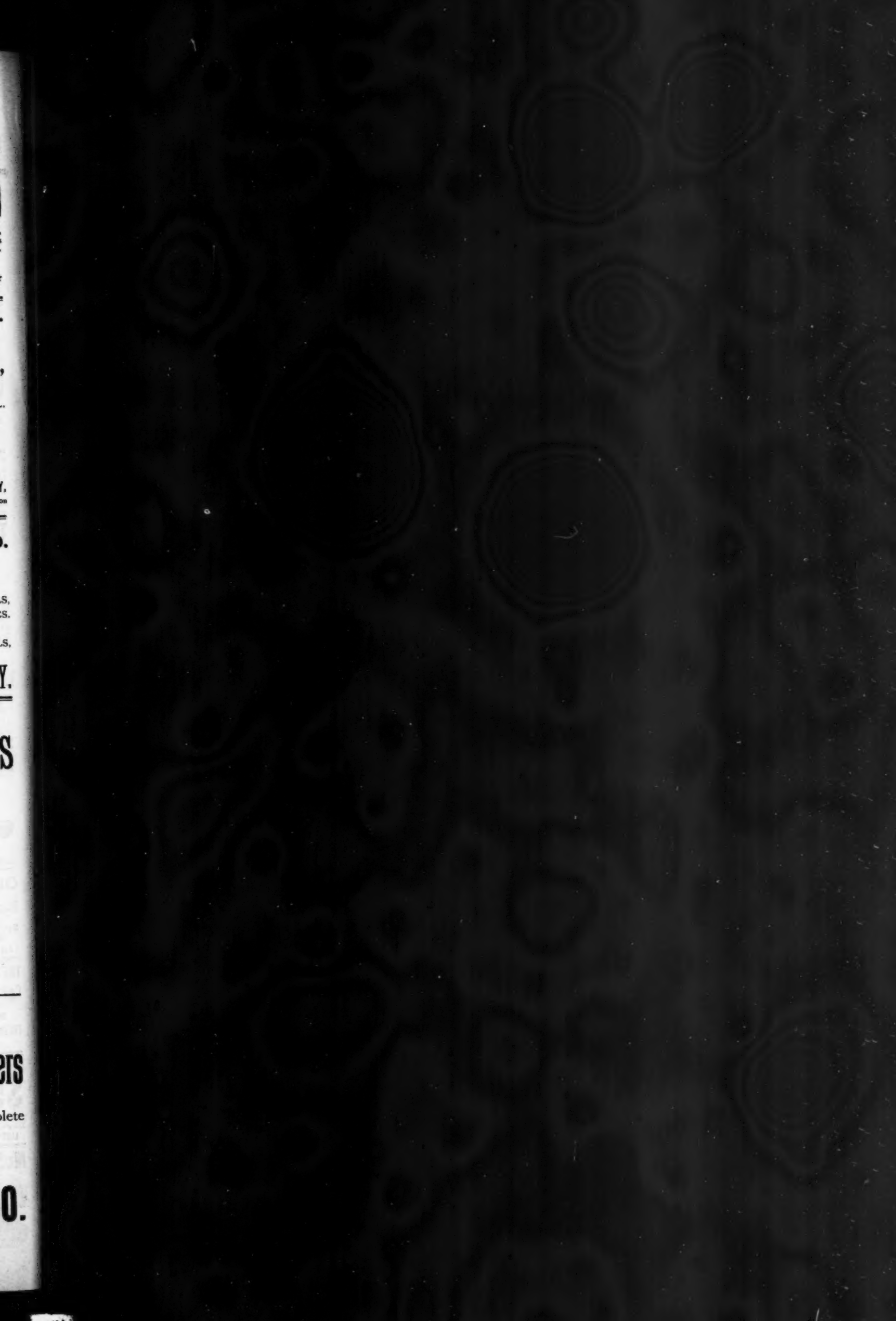
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# Alphabetical Index of Advertisers.

(For Classified Index, see Page 2.)

<b>A</b> Abbott, B. S. 74 Adams, Austin 33 Adams, S. & Sons 33 Alcott, T. C. & Son 52 Allen, Edw. 70 Allentown Fdry & Mach. Co. 30 Allen, Tompkins & Hatcher 33 American Gas Saving Co. 73 American Mfg. Co. 75 American Pig Iron Storage Warehouse 70 American Pipe Mfg. Co. 45 American Screw Co. 71 American Supply Co. 31 Anniston Pipe Works 31 Arctic Ice Machine Mfg. Co. 31 Armstrong Bros. 33 Arnold, D. J. C. 58 Ashton Valve Co. 34 Atlanta Machine Works 61 Ault & Wiborg 62 Austin, F. C., Mfg. Co. 36	<b>B</b> Babcock, W. H. 51 Baker, Sloc & Co. 33 Baldwin Locomotive Works 66 Baltimore Stor. & Light Co. 63 Barnard, Geo. A. 34 Barnes, W. F. & John Co. 68 Barr Pumping Engine Co. 48 Barry, Charles A. 45 Barry, W. B., Saw and Supply Co. 31 Basic City, Va. 54 Bates, Jas. 74 Bay Line 53 Beach, H. L. 62 Bedford City Land & Imp. Co. 29 Beiden Machine Co. 75 Berger Mfg. Co. 28 Bessemer, Ala. 28 Bickford Drill Co. 68 Big Stone Gap, Va. 27 Birdsall Co. 32 Blake Mfg. Co., The Geo. F. 30 Blakelee Mfg. Co. 30 Boggs & Clarke 30 Boomer & Boschert Pre. Co., The 45 Boston & Lockport Block Co. 75 Boude, Pendleton, Meem & Co. 75 Boughen Eng. Co. 36 Bouton, A. F. & Co. 61 Box 110, Cleveland 74 Bradley Fertilizer Co. 65 Bradley & Co. 67 Bradstreet Co. 63 Brown, Alex., & Sons 39 Brush Electric Co. 79 Budden & Son 62 Buena Vista, Va. 21 Buffalo Forge Co. 80 Buffalo Scale Co. 3 Buffalo Steam Pump Co. 31 Bullock, M. C., Mfg. Co. 64 Bundy Mfg. Co. 75 Burgess, W. R. 33 Burton, W. J. & Co. 75 Busbey, Geo. 53 Bushnell, G. H., Co. 59 Byers, Jno. F. 52 Byram & Co. 52	<b>C</b> Caldwell, H. W. & Son 71 Callahan, W. F. & Co. 59 Cambridge Roofing Co. 73 Cameron, A. S., Steam Pump Wks 39 Campbell Cotton Compress Co. 39 Campbell & Zell Co. 35 Canning, Reginald & Co. 46 Canton Saw Co. 51 Canton Steel Roofing Co. 71 Cardell, Jas. D., & Co. 60 Cardiff, Tenn. 20 Carlisle Mfg. Co. 46 Case Mfg. Co. 59 Castle Engine Works 61 C. H. & D. R. R. 61 Chamberlin Mfg. Co. 68 Chambers, E. P. 45 Chambers Brothers Co. 58 Chandler & Taylor 35 Chapman, F. J. 68 Charter Gas Eng. Co. 68 Chattanooga Fdry. & Pipe Wks 31 Chattanooga Saw Works 67 Chattanooga Paint Co. 67 Chattanooga Wood Split Pulley Co. 68 Cheney & Hewlett 75 Cheraw, S. C. 75 Chesapeake Belting Co. 70 Chester Steel Castings Co. 66 C. M. & St. P. Ry. 63 C. & C. R. R. Co. 63 Chicago Raw Hide Mfg. Co. 70 Chickasaw Iron Works 73 Christiana Mch. Co. 52 Christie & Le Count 75 Cincinnati Corrugating Co. 73 Clark, Geo. P. 58 Clark, Jeremiah 75 Clark, W. J. & Co. 75 Cleveland & Hardwick 75 Cleveland Axle Mfg. Co. 80 Cleveland Elec. Mfg. Co. 73 Cleveland Gas Machine Co. 73 Cleveland, Lorain & Wheeling Railroad 63 Cleveland Twist Drill Co. 50 Cloud, A. M. 45 Cobb, Thaddeus S. & Co. 59 Colburn, L. S. 45 Coleman Gas Works Constr. Co. 36 Collier, A. B. 68 Colliau, Victor 52 Connell & Dangler 46 Consolidated Ice Machine Co. 61 Contractors' Plant Mfg. Co. 30 Cook Well Co. 30 Copeland & Bacon 56 Cordesman, Meyer & Co. 48 Corey Car & Mfg. Co. 36 Corporation Book Co. 38 Cortright Metal Roofing Co. 38 Covert Mfg. Co. 72 Cox, L. N. 78 Crawford, S. E. 30 Crescent Manufacturing Co. 70 Crompton Loom Works 59 Cronk Hanger Co. 59	<b>D</b> Curtis Regulator Co. 76 Cyclope Steel Works 67 Dallas, Texas 32 Davis, F. H. & Co. 32 Dean Bros. Steam Pump Works 30 Deane Steam Pump Co. 30 Defiance Machine Works 50 Denison, Texas 19 Derby & Kilmer Desk Co. 39 Detroit Elbow Co. 65 Detroit Foundry Equipment Co. 66 Detroit Heating & Lighting Co. 76 Diamond Prospecting Co. 64 Diets, Bernhard 68 Diston, Henry, & Sons 49 Dixon, Jos., Crucible Co. 70 Dolph, A. M., Co. 76 Dopp, H. Wm., & Son 61 Draper, Geo., & Sons 44 Drew, Baldwin & Co. 45 Duffur & Duran 68 Dunning, W. D. 68 Du Quoin Iron Works 45 Dyott & Co. 66	<b>E</b> Eagle Boiler Works 36 Eastman Co. 39 Eclipse Pump Mfg. Co. 39 Eddy, Chas. G. 53 Edison General Electric Co. 53 Edmonds & Robinson 30 Egan Co., The 50 Ehlert-Warren Mfg. Co. 30 Empire Paint & Roofing Co. 30 Empire Portable Forge Co. 72 Employers' Liability Assurance Corporation (Limited) 4 Estate of G. M. Cruickshank 39 Estep, F. A. 46 E. T. V. & G. Ry. 63 Evans Friction Cone Co. 3 <b>F</b> Fast, R. E. 45 Fay, J. A., & Co. 49 Field, Jno. C. 49 Fitts, Jno. C. 49 Fletcher & Thomas 58 Forest City Brass Works 58 Forsyth, S. C., Machine Co. 67 Foundry & Machine Department Harrisburg Car Mfg. Co. 35 Frank & Co. 35 Freese, E. M. & Co. 58 Frey-Sheckler Co. 34 Frick Co., Lucap Mfg. Co. 65 Fritz, Geo. 70 Frontier Mfg. Co. 75 Fulton Steam Boiler Works 35 Fulton Iron & Engine Works 80	<b>G</b> Gambrell, C. A., Mfg. Co. 63 Gandy Belting Co. 70 Gates Iron Works 64 Gerlach, Peter & Co. 51 Glamorgan Co., The 31 Glasgow, Va. 18 Glen Cove Machine Co., (Lim.) 48 Globe Machine Co. 48 Globe Iron & Foundry Co. 74 Globe Machine Works 48 Godfrey & Co., L. 48 Goodell & Waters 50 Goodhart, P. J. & Co. 39 Goodrich Trans. Co. 53 Gordon, Strobel & Laureau (Lim.) 53 Goulds, Mfg. Co. 36 Graham, J. S., & Co. 48 Gray & Fitch 45 Grottoes Co., Va. 24	<b>H</b> Haines, Jones & Cadbury Co. 60 Harrington, E. Son & Co. 62 Harrison, E. & King Perfor. Co. 53 Harris, N. W., & Co. 38 Harris, Wm. A., Steam Eng. Co. 38 Harrison Safety Boiler Works 38 Harrold, Uriah B. 45 Hartford Steam Boiler Inspection & Insurance Co. 62 Hartman & Durstine 62 Heberling Metal Roofing Co. 73 Hecken Bros. & Co. 72 Hercules Iron Works 73 Heine Safety Boiler Co. 38 Heiser Electric Light Co. 78 Hewes & Phillips Iron Works 32 Hill, Wm. E. & Co. 48 Hollis Spring Co. 72 Holmes, E. & B. 68 Holt Mfg. Co. 74 Holston Iron Works 73 Hoopes & Townsend 66 Hoopes Mfg. Co. 66 Hotel Fairmount 62 Hotel Lucerne 66 Houchin, A. W. 68 Hubbard, H. W. 74 Huffman, W. A., Imp. Co. 75 Hughes Steam Pump Co. 52 Hunting, E. B. & Co. 74 Hunt, Rodney, Machine Co. 30	<b>I</b> Ide, A. L., & Son 32 Indiana Machine Works 74 Industrial Light Co. 73 Industry File Works 73 Ingersoll-Sergeant Rock Drill Co. 3 Iron Clad Paint Co. 67	<b>J</b> Jackson & Woodin Mfg. Co. 75 Jacksonville, Ala. 12, 13 Jarvis Engineering Co. 58 Jeffrey Mfg. Co. 58 Jenkins Bros. 58 Johns, H. W. Mfg. Co. 52 Johnson, R. M. 68 Johnson, Shryock & Co. 74 Jones of Birmingham 68 Jory & Co. 53 Joyce, Cridland & Co. 64	<b>K</b> Kanneberg Roofing Co. 73 Keegan & Halpin 51 Kendall, Edward & Sons 35 Kibbourn & Jacobs Mfg. Co. 35 Kimball, Tenn. 18 Knoxville Car Wheel Co. 66	<b>L</b> Ladd, Alfred W. 46	<b>L</b> Laidlaw & Dunn Co. 30 Lancaster Turbine Wheel Co. 52 Laredo, Texas 14 Lathe & Morse Tool Co. 67 Leffel, Jas., & Co. 31 Ligovsky Clay Pigeon Co. 75 Lincoln Iron Works 64 Link Belt Engineering Co. 65 Litotite Mfg. Co. 51 Lloyd Smith Co. 76 Locke Bros. 43 Lockwood, Greene & Co. 43 Lockwood Mfg. Co. 34 Lodge & Davis Mach. Tool Co. 46 Longstreet, J. G. 45 Long & Allistatter Co. 76 Longwood Land & Imp. Co. 26 Loomer, H. M. & Co. 74 Lowe & Tucker 73 Lowell Steam Boiler Works 46 Ludlow Saylor Wire Co. 68 Ludlow Valve Mfg. Co. 34 Lunkenheimer Brass Mfg. Co. 34 Luray, Va. 87	<b>M</b> Mackinnon, J. A., Mach'y Co. 46 Makers, C. E. Co. 45 Males, A. S., & Co. 45 Manly Manufacturing Co. 71 Manor, Chas. E. 45 Marinette Iron Works Co. 45 Maslin, Jno., & Son 30 Mason Regulator Co. 68 Mast, Foss & Co. 30 Mather Electric Co. 74 Menasha Wood Split Pulley Co. 61 McGowan, Jno. H., Co. 30 McLanahan & Stone 63 McNeil, J. C., & Co. 35 McShane, H. & Co. 75 Mengel, John G. & Co. 63 Merchant & Co. 68 Merritt, L. E., Machinery Co. 30 Meyer, F. H. Co. 73 Meyers, Fred, J., Mfg. Co. 73 Middendorf, Oliver & Co. 39 Middlesborough, Ky. 25 Miles, Geo. 35 Miller & Bierce 36 Milner & Kettig 72 Minner & Peck Mfg. Co. 67 Minnigrode, Wm. 46 Moore, F. H. Co. 61 Moore & White Co., The 61 Morgan, D. F., Boiler Co. 74 Morris County Machine Co. 36 Morris Machine Works 52 Morse, Williams & Co. 3 Munroe, R. & Son 77 Munson & Bro. 27 Murray & Stevenson 75 Murray, Jas., & Son 45 Myers, F. E. & Co. 30	<b>N</b> Nashville Rapid Tanning & Belt Manufacturing Co. 70 National Pipe Covering Co. 46 National Sewerage & Sewage Utilization Co. 46 National Typewriter Co. 77 New Doty Mfg. Co. 80 New England Roller Grate Co. 46 New York Equipment Co. 46 New York Machinery Depot 46 Niagara Falls Railway Supply Co. 46 "Niagara" Hotel 46 Niagara Stamping & Tool Co. 76 Nicholson & Waterman Mfg. 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Co. 62 Ryder & Dearth 63	<b>T</b> Salem Fdry. & Mch. Shop 72 Salem Wire Nail Co. 60 Santley, W. R., & Co. 68 Saunders, D., Sons 67 Scanlan, G. H., & Co. 59 Schaefer & Shilling 59 Schneider & Trenkamp Co. 75 Schuyler Elec. Co. 78 Sebastian-May Co. 46 Seyfert's Sons, L. F. 46 Sharon Boiler Works 75 Sheffield, Ala. 46 Shenandoah, Va. 55 Shenandoah Valley Railroad 53 Shepard, H. L. 58 Sherwood Mfg. Co. 46 Shields & Brown Co. 47 Shimer, Samuel, J. 47 Shryock, Thos. J., & Co. 74 Shultz Belting Co. 70 Silver & Deming Mfg. Co. 30 So. Electrical Supply Co. 45 Simpson & Hillier 47 Skinner Engine Co. 47 Smith, Fred, H. 53 Smith, H. B., Machine Co. 49 Smith, Jas., & Co. 3 Smith Premier Typewriter Co. 75 Smith, S. Morgan 52 Smith & Valle Co. 30 So. Electrical Supply Co. 45 Southern Equipment Co. 39 Southern Investment Co. 39 Southland Investment Co. 39 Spiral Weld Tube Co. 31 Springfield Emery Wheel Mfg. 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T. 28	<b>X</b> Whiting & Son, John L. 72 Wheeling Spinning Ring Co. 59 Whitney & Sons, A. 59 Whitney, R. M. 60 Whitton, D. E., Machine Co. 60 Wier & Wilson 60 Wiley, J. H. 74 Willer, Wm. 53 Williamsport Machine Co. 64 Williamsport Wire Rope Co. 64 Williams & Son, Jno. L. 64 Wilson & Co., H. McK. 68 Wilson, Colston & Co. 39 Wilson, E. H., & Co. 46 Windrim, Jas. H. 48 Winship Manufacturing Co. 45 Wiswell Elec. Min'g Mach'y Co. 62 Withrow, Jas. F. 52 Wolf, Fred W. Co. 45 Worthington, Henry R. 44 Wood, E. J. 47 Woods Machine Co., S. A. 48 Wright & Wood 48 Wright, Jr., R. K. 53 Wyckoff, A. & Son 80	<b>Z</b> Zoeller, E. V. 45
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[Continued from Page 2.]

Stillwell & Bierce Mfg. Co. 31  
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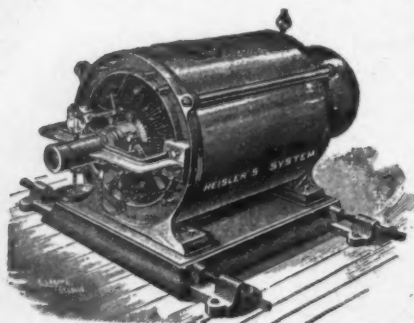
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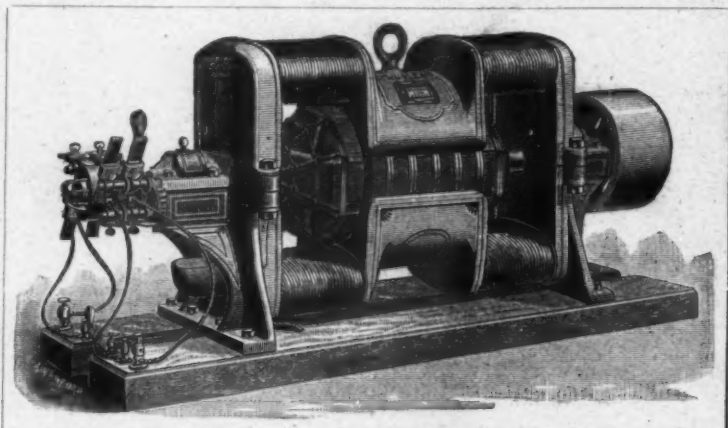
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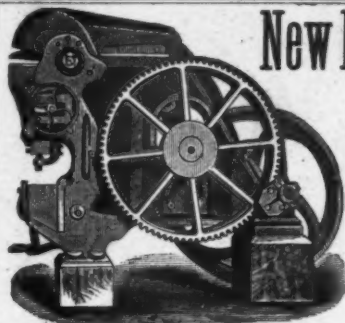
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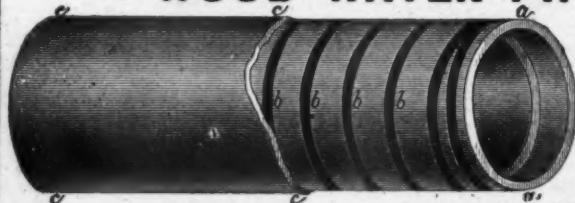
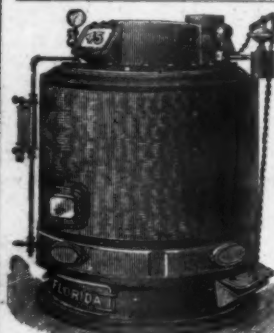
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